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TO INDIA AND BACK BY THE CAPE



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TO INDIA AND BACK
BY THE CAPE.

BY A TRAVELLER.

WITH NUMEROUS DRAWINGS ON WOOD AND STONE,

BY JOHN CORBET ANDERSON,

FROM SKETCHES BY THE AUTHOR AND OTHERS.

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DEDICATED TO THE
WIDOWS AND ORPHANS OF ENGLISH SOLDIERS
WHO HAVE FALLEN,
IN AVENGING THEIR COUNTRY'S OUTRAGED HONOUR,
UPON THE
PLAINS OF HINDOSTAN.

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TO INDIA AND BACK BY THE CAPE



INTRODUCTORY CHAPTER.

THE absence of any popular Guide-book for Travellers to India, round the Cape, has often been a matter of surprise and regret. With the exception of "Daniell's Picturesque Voyage * * by way of China," published half a century ago, I am not aware of any work which specially describes that route. The "Long Voyage to India," though attended with but little excitement, and hence supposed to be intensely monotonous, has, nevertheless, a certain charm and interest of its own, and opens up to us the pages of a book which can hardly be read without our becoming wiser and better for the perusal. The following work pretends to nothing more than a collection of incidents and facts, familiar to every voyager, together with a very general and summary description, as well of the scientific portions of the book, as of the different places which are either only "sighted" or "touched at" on the journey. For more minute information on the several subjects the reader is referred to those publications which especially treat of them, and to which I am myself deeply indebted.

It may be desirable, *in limine*, to offer a few prefatory remarks, relative to the respective merits of the two modes of reaching India. The overland route, embracing a *sea* passage of nearly 8,000 miles, involves a continuous *land*-journey of, after all, only some 80 or so (or 200 of broken land and river), across the desert from Cairo to Suez; and this is effected in about 16 hours. On the completion of the railway, during the present year (1858), even that space of time will be considerably shortened. There are the same marine *desagremens* in going overland as in rounding the Cape; but they are, of course, sooner over,—the whole distance being accomplished in 35 days from Southampton to Bombay, and in from 45 to 48 to Madras and Calcutta.

Where time is an object, the Overland route must be adopted; and it is a question whether, in an economical point of view, too, the greater expence, so incurred, is not more than counter-balanced by the earlier attainment of a lucrative Indian appointment; or of even ordinary Indian allowances. Moreover, as the period of service in India dates from the day of arrival, it is obviously desirable to arrive as soon as possible. There is the further advantage in the Overland route to young Indian officers, in the fact of its being a better introduction to the *world* than a long voyage at sea.* This route promises to become popular, too, with the Tourist; but, to enjoy it thoroughly, it must not be travelled at the speed, with which John Bull is too apt to hurry over his continental tours.

In cases of illness† requiring a long sea-voyage,—or with a view to avoid a too rapid exodus from a cold country into a hot one, or where there are large families,—the Cape route is the best. The voyage may be accomplished in a screw steamer, or a sailing vessel. The former are calculated to reach Madras in 65 and Calcutta in 70 days; but, as the accommodation is both contracted and expensive, this curtailment of the voyage, though even by several weeks, may hardly be considered to neutralize such disadvantages.

For travellers bound only to intermediate ports, or to those where sailing vessels do not touch (or which, when they do, possess very indifferent accommodation), screw steamers are well suited. They show to most advantage, perhaps, in the “Doldrums,” a nautical term for those regions of calms, which delight the poet, but distract the sailor.

But, for passengers the whole way to India by the Cape, nothing can surpass the Indiamen of the day. These may be divided, like railway carriages, into 1st, 2nd, and 3rd class; the former, ranging from 1,000 to 1,700 tons, furnished with large cabins and excellent provisions, manned by gentlemanly officers and an efficient crew, and constituting as splendid a fleet of merchantmen as ever sailed upon the ocean, are well calculated to divest Dr. Johnson’s “marine prison” of much of its imaginary horrors. With such an “*embarras de richesses*” the difficulty is, which ship to select. Where all‡ are so fine it would be invidious to particularize; but, as so much of the comfort of the voyage depends upon the character of the captain, the selection should always hinge upon an enquiry into that point; though it must be admitted that for strangers, who have no Indian connections to guide them, it is almost impossible to ascertain what a captain may be like. There is no doubt that skippers often obtain a bad name very undeservedly; for it requires first-rate diplomacy to succeed in avoiding condemnation from at least *some* of the passengers. Stinginess and tyranny are vices which will, of course, secure for their owner a wide notoriety.

In the 2nd class ships a passage would be cheaper than in a 1st class; the provisions may be as good and more bountifully supplied; such ships are quite as sea-worthy as the larger vessels (for size by no means ensures safety); and they often sail just as well, sometimes better. The accommodation, however, and the general arrangements for the comfort of passengers cannot, obviously, be so good as in the 1st class ships.

The 3rd class ships are essentially outsiders. Being chartered almost exclusively for freight, they are, manifestly, less suited for passengers than the regular passenger vessels. As, however, they usually ARE fitted up with a certain amount of cabin accommodation, passages are sometimes taken in them; and no doubt a very pleasant one is often made in an “outsider.” In the absence of other passengers, *the one* probably gets a large stern cabin (if he prefers it), all to himself, at comparatively

* On the other hand, it must be remembered that, for *less* money, the passenger is lodged and boarded *longer* by the Cape route; and this, in many instances, may be an object.

† It may be observed, in general terms, that whereas this route is desirable for sufferers from “liver complaint,” or disorders of the lungs and bowels, it is not at all suited to the nervous or dyspeptic valetudinarian.

‡ It would be a great boon if all ships were provided with a public bath-room, &c., as are the “Marlborough” and “Blenheim” (sister ships belonging to Messrs. T. & W. Smith). The advantage of such an arrangement is obvious, and highly appreciated by those who have sailed in those ships.

little cost. But one must be prepared, in most cases, for the absence of kindred society; and—an equal if not greater hardship—not to see very much fresh food during the voyage.*

Whatever class of ship be chosen, the time of her arrival in India should always be calculated.† Ordinarily speaking, the passage occupies from 90 to 100 days to Bombay, and from 90 to 120 to Madras and Calcutta.

There is an advantage in flush-decked over-poop ships, in the fact of their enabling one to take a longer walk upon the deck, and in being safer for children. Poop cabins, however, are preferable to corresponding ones in a flush decker, as their ports can be kept longer open in rough weather; and, for the same reason, the lower-deck cabins in a poop ship are preferable to those of a flush-decked.

It has been supposed that a cabin on the larboard side, if “outward-bound,” and one on the starboard, if coming home, should be selected,—with the view, in either case, of securing the benefit of the “trade winds,” which tend to mitigate the great heat on either side of the line. But this advantage (even if real, which many dispute, as occasionally a “trade” blows due aft), is often neutralized by the accompanying rough sea, which is apt to dash into the cabin and derange all its snuggeries. So long as the cabin is on the upper‡ deck the particular side is of little consequence; but as there is much *less motion* in the centre of the vessel than at the stern, persons who suffer from sea sickness should always endeavour to secure a cabin somewhere thereabouts. Doubtless, a fine stern cabin, with its quarter-gallery, its greater airiness, light, and retirement, are no mean attractions; and one is sorely tempted to run the risk of a little illness to secure them. But, where there is a peculiar susceptibility to the “*maladie de la mer*” (in such cases it is apt to recur at intervals throughout the entire passage), it is far wiser to take *two* adjoining cabins (if much space be required), towards the centre. There is, undoubtedly, more noise heard in the upper than in the lower cabins:—as, of walking overhead, bolts and ropes falling, fowls cackling, and various other little pleasantries peculiar to shipboard,—not to omit *holy stoning with a Lascar crew*. But these disadvantages are more than counter-balanced by the greater amount of light and air, and of consequent comfort, throughout the voyage.§

With regard to cabin furniture, the passengers should not over-do it, in spite of the allegation that, if judiciously selected, it may be useful hereafter in India. *Interest often prompts advice.*

While we have been shaking down into our cabins, land has been gradually vanishing from view; and, now, the departing pilot gathers together our last farewell letters, and bids us “good speed” on our long voyage to India. We are fairly at sea. Home, sweet home, with all its tenderest ties, is left,—perhaps for ever,—and an unknown world lies before us. The parting blessing of a loving parent still lingers in our ears, and makes us half regret the irrevocable step we have taken. Some have parted from wives, or children, or both; and now, in that aching void, begin to taste the *bitterest drops* of the cup of married life in India. Others, complete citizens of the world, readily accommodate themselves to circumstances, and are buoyant with visions, not always realized, of the fabulous dimensions of John Company’s “Rupree-tree.” Soon, the curtain rises; and the “*dramatis personæ*” prepare to “fret their hour” upon the Indianman’s stage.

It has been said that, after all, an Indianman is only an “Hotel at Sea,” and that mine host, the

* Those who take a passage in an “outsider,” for the sake of cheapness, would do well to lay in their own stores.

† As it is never, for most European constitutions, safe to make a *début* in India during the hot season, it will be wise to select a ship intended to arrive at any time from October to February, inclusive. It is upon this principle that the 1st class vessels leave England between June and September.

‡ Invalids should *never* engage a *lower deck* cabin in any ship, at however cheap a rate. What looks all light, and air, and sweetness at anchor in a river, assumes a very different aspect at sea, especially if there be a heavy cargo, or much of it be *sugar*; in short, such cabins are often, owing to the combination of heat, want of light and air, and bad smells, quite untenable. An exception may be made in favour of the stern cabins on this deck. These have certainly more light and air than the side ones, and from their privacy and size, are well suited for large families; but these, too, must have their ports closed in rough weather, which reduces them, in warm latitudes, to the level of their neighbours.

§ The cost of a cabin must depend very much upon circumstances, as the character of the ship, the number of vessels advertised, the number of passengers going out, and the season. The following rates may be taken as the average:—

	One person.		Two or more persons.	
	£	£	£	£
A stern cabin on the poop or upper deck	150	to 160	200	to 210
A side ditto on ditto ditto	110	to 120	150	to 160
A stern cabin below	120	to 140	180	to 200
A side ditto near the stern	100	to 110	140	to 150

The prices diminish for cabins *forward*, which, whether above or below, are more noisy and less private. Young men going out for the first time may readily meet with half a side cabin for from £60 to £80 in a 1st class ship.

captain, is its paid landlord. The circumstances of each ship, of course, vary; and, in some instances, *may* be such as to justify this statement; but, in the best ships, it will be found to be a very erroneous view of the case. A captain may be frank and jolly; but he need not be of the Inn-keeper stamp for all that. Generally well-connected, (though possibly in youth a wild "runaway to sea,") he may have one brother struggling to support a family upon physic; another, patiently going through a routine of "Embryo Barrister" dinners; and a third, an estimable curate, passing rich on an annual income of something under £100; whilst he himself, revelling in £600 or £800 a year, though perhaps less than 40, leads the life of a monarch; and often combines the skill of the sailor with the grace of the gentleman. If his cabin is his castle, the cuddy should be regarded as his parlour; and ought not to be devoted, as it too frequently is, to purposes for which private cabins, or the deck alone, are intended. Recognize the captain's temporary sovereignty, conform to the rules of the ship, and the chances are, that all will feel more like members of a large private party, and be sorry when it breaks up, than as inmates of a tavern, where the welcome closes with the bill, and where intimacy and the *entente cordiale* are never known.

A SHIP'S COURSE.

The progress of a ship at sea, guided with such unerring precision, and yet leaving no index to her course, cannot but raise our thoughts to Him who *thus* permits *man* to typify *His own* mysterious *omnipotence*.

"Thy way is in the sea, and thy paths in the great waters, and thy footsteps are not known."

Who that has for the first time witnessed the *meeting of two ships* at sea has not thrilled at the singular novelty and excitement of the scene? Coming from opposite hemispheres,—tossed about, it may have been, in some places, by tempestuous gales, or helplessly detained by calms in others,—yet compass and sextant, and "foul winds turned into fair," have, finally, overcome all difficulties; and, at length, at the appointed rendezvous,* "outward" and "homeward" bound meet, and exchange their friendly salutations. Each at dawn seeming to the other as a white speck in the distant horizon,—developing, at noon, into "long-hulled," "taut-masted," merchantmen,—how, as each approaches the other, do eager eyes watch for the national flag which is to proclaim a stranger or a friend. "English, she's English," is the cry raised in both, as forth float two British ensigns on the breeze. Both have troops on board. Amidst immense excitement, a few conversational flags are rapidly run up and down, by distracted midshipmen, between the spanker gaff and the deck. And now they pass within earshot of each other. Loud cheers rise through the air. "Cheer Boys, Cheer;" "aye, cheer away. Cheer "outward-bound;" 'tis the British war cry proclaiming vengeance on the treacherous Sepoy. Cheer "homeward-bound;" cheer those gallant warriors on, and give them new heart and new courage. Cheer for yourselves that *your* Indian toils are ended; cheer in the thought of England and of home.

The hours pass on; and with them the ships, bearing away their living freights of throbbing human hearts. The day closes. Again two distant specks,—now vanishing in opposite horizons; and the wild waves alone are left to tell of the meeting of England's sons upon England's ocean home.

"And such is human life, now gliding on,
It glimmers like a meteor, and is gone."

MADEIRA.

This island, now rarely visited by Indiamen, requires therefore merely a passing allusion. Formerly, as is well known, ships called here on the outward passage, and were freighted with Madeira wine, which was destined to make the voyage to India (East or West), and back. The rich

* This refers to those parts of the voyage where "outward" and "homeward" bound ships are very likely to fall in with each other. We may all recollect the delight experienced in finding ourselves in the track of an "outward bounder," or vice versa; materially intensified when the captain has consented to run a little out of his course to ensure a closer meeting.





TENERIFFE

vineyards, alas, have become the prey of a fungus,—the *Oidium Tuckeri*—(whether the cause, or effect, of the disease is not known), to which the vines have, since 1852, almost entirely succumbed. It is worth considering, whether the experiment of encouraging the cochineal and the cactus might not answer as well in this island, as it has done in that of Teneriffe,—distant only some 240 miles south.

As a sanitarium, Madeira retains its pre-eminence over Pau, Pisa, Nice, Malta, Malaga, and even Egypt, for the consumptive and tender lunged; and has, moreover, this grand advantage,—that an invalid may stay there *the whole year round*.

Of volcanic origin,—its central back-bone ridge cresting up into a cluster of peaks (the highest, *Pico Ruivo*, being 6,050 feet, and visible, in a clear atmosphere, some 90 miles off), up to which deep ravines penetrate from both coasts, giving shelter, in their snuggeries, to the several villages whose patches of green cultivation so delight the passing voyager; its rugged basaltic cliffs (blue with shrubs of the “Pride of Madeira”), and dark red soil, facing the sea with a bold perpendicular front, reaching sometimes to a height, as at Cabo Girão, of 2,000 feet; its growths of heath, broom, and laurels, enhancing the romantic beauty of the spot; with its deliciously blue sky and transparent atmosphere, and a mean average temperature of from 65° to 75° Fahrenheit; with an excellent supply of never failing springs, found everywhere, and fed by the mountain mists; with gardens where the vegetation of colder climes mingles with that of the tropics; with its *Quintas* and *Curral*; without a local fever, a venomous reptile, or even an English gnat; Madeira may well be called the “Paradise of the Atlantic.”

NOTES.—Madeira, in length 30, in breadth 12½, and in circumference 72 miles, with an area about 1-4th greater than that of the Isle of Wight, and a physical configuration similar to that of Jamaica, is situated between the parallels of 32° 49' 44" and 32° 37' 18" N.L., and between 16° 39' 30" and 17° 16' 38" W.L., and *Funchal*, represented in the sketch lying on the S.W. side, is its chief town. It is 1,332 miles from Southampton.

Quintas.—Country houses.

Curral.—A beautiful smiling valley in the interior, frowned over by an amphitheatre of bare and rugged rocks.

See *White's Madeira*, by *Johnstone*, as the best published guide to the Island.

PEAK OF TENERIFFE.

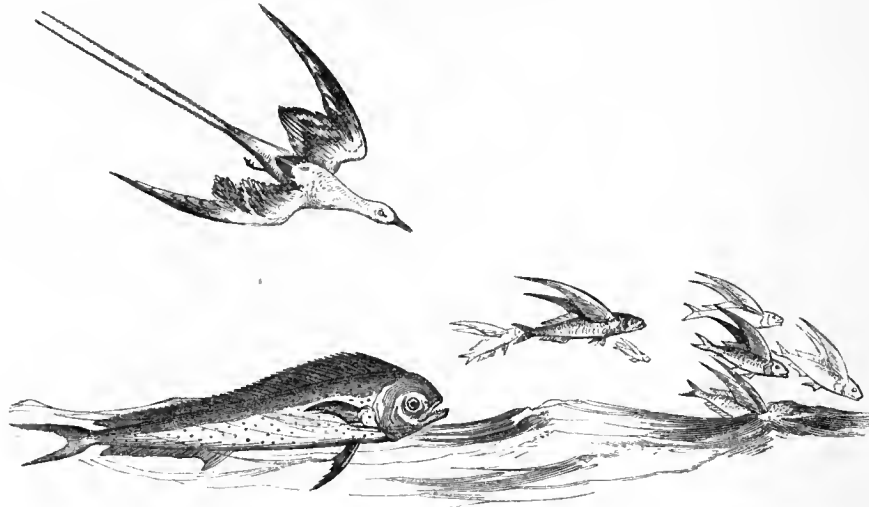
This, the highest land between the Andes and Himalayas, has been shown, by Professor Smyth's photographic views, not to be a *veritable* peak (as hitherto supposed, and as it appears to be from a distance), but one which, though sharp pointed, is yet obtuse angled. Indiamen very rarely touch at Teneriffe; nor is it always even “sighted.” In clear weather the Peak,—that is the summit of Piton, which is the *Peak of the Peak*, and 12,198 feet above the level of the sea,—may be seen at a distance of 200 miles! It is only, however, either before or after rain, when the refraction of the atmosphere is greatest, that the Peak is visible so far off. On sailing along the coast, from North to South, the island appears to have been once a “complete cinder; and presents to view * * the brokenness and irregularity of half-consumed coke. This resemblance * * becomes less perfect as we approach the Peak, the great chimney of the fiery cauldrons boiling beneath.”

Santa Cruz, on the S.E., interesting to Englishmen as being the spot where Nelson lost his arm,—and *Oratava*, on the W. side, where, in the days of the vineyards, the wine was made,—are the two chief towns. Neither are tempting; but *Santa Cruz* is the worst,—being “badly built, and worse governed, with squalid wretchedness meeting the eye in every direction.”

Teneriffe is a *Berber* word, derived from *Thener*, mountain, and *ife*, white; and it is supposed to have formed, with the other Canaries, the Elysian fields of antiquity, or fortunate islands of Ptolemy. The aborigines were Berbers (syn. *Guanehas* and *Vineherri*), a brave able-bodied race, fairer than the Spaniards to whom the island now belongs. They clothed themselves in goat skins; and had a singular set of punishments attached to their criminal code, one of which was to pound a murderer's or adulterer's head on a *flat* stone with a *round* one till he died. A remnant of this singular race still exists on the island.

NOTES.—For 300 years the vine flourished in Teneriffe; it then failed. Enterprising individuals, backed by the government, but opposed by the agrarian population, introduced *cochineal* from the Honduras, and with so much success that an acre of the driest ground will now yield 300lbs. (max. 500lbs.) of cochineal, equal to £75 in money. The male cochineal is like a gnat, and soon dies. The female, shaped like a bug, is white; but whilst feeding on the cactus, which is indigenous, gradually becomes purple, and, when purple enough, is swept off, baked, and becomes the cochineal of commerce.

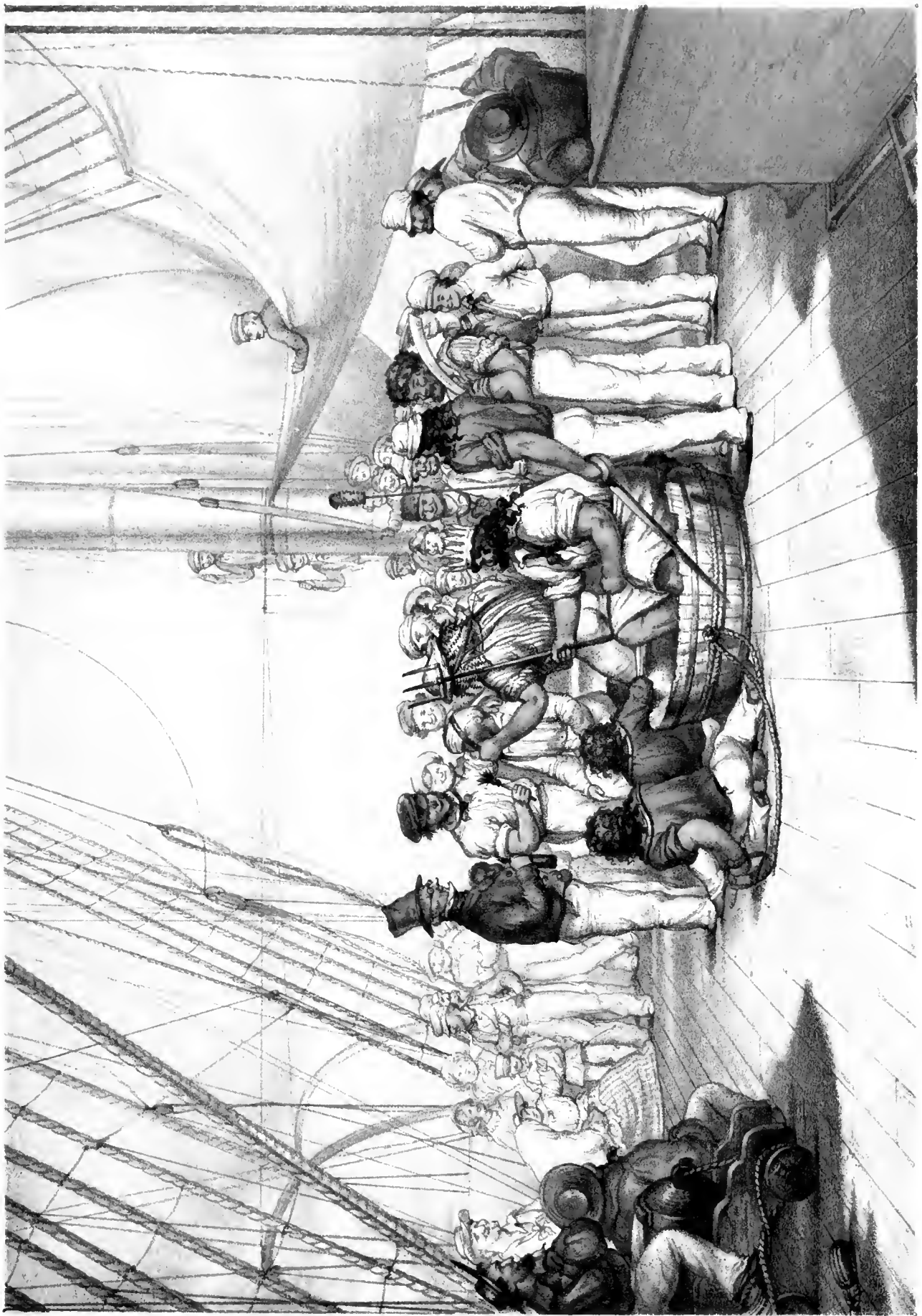
CROSSING THE LINE.



CORYPHENE AND TROPIC BIRD IN PURSUIT OF FLYING FISH.

And now we approach the equator. Cats'-paws and squalls have hitherto, since we lost the N.E. trade (with the exciting chase of the flying fish by the tropic bird and coryphene), been the only break to the wearisome monotony of the doldrums. It is evening. The sun has set, after such a scorching day as the tropics only know, behind a bank of very wind-promising clouds; with his face "set" to the West, the officer of the watch is "whistling" for the wished for breeze; whilst nought relieves the stillness of the heavy atmosphere save the flapping of the suffering sails against the masts and rigging. Suddenly a stentorian roar sounds through the ship. The captain has been hailed by Neptune. After certain formal preliminaries a conversation ensues between them; and this, in true English style, commences, of course, with the weather. The captain complains of the "trades," observing that they don't approach his Majesty's boundary *line* so freely as they used to. The god listens, humphs and ha's, whispers something about steam as a remedy, and finally proposes to come in state next day and receive the tribute of those who, for the first time, have entered his dominions. Neptune's element then comes streaming down from every yard arm, and his Majesty departs in his car,—for, presently, a barrel filled with burning tar floats past the stern of the ship; and the god is supposed to be ensconced therein.

The following day, Neptune appears again; and, this time, with Amphitrite, (usually pronounced *Amphitritty* by the sailors). Crowned with Atlantic flowers, or a paper crown, and bearing in his hand a trident (a grange is made to do duty),—his Queen (a clean-shaved, and red and yellow ochred, fore-top-man, dressed up in a white bedgown and frilled night cap), seated with her two children by his side,—his Majesty rides triumphantly in his car of state, drawn by "blue, yellow, black, and red painted Tritons, naked to the waist, wearing high caps or swabs for hair," and driven by a coachman with wig and top boots. A winged Mercury (with his scroll and wand), whose office appears to be to direct admiration to the *hamiable* Amphitritty; a Piper (who heads the procession), with a bear (whose island of ice melted long ago in 50° S.), as body guard, and more Tritons to bring up the rear, complete the component parts of this grotesque cavalcade. Presently it stops, when Neptune's cocked hatted secretary produces a book and reads out the names of those destined to be initiated into the mysteries of "crossing the line." The perusal over, the procession moves "for'ard;" and, whilst Neptune himself may be said to preside as master, his attendants severally prepare to assist at the great ceremony of the day. A sail, filled with water, is first drawn across the deck, the duty of guarding which is especially assigned to the bear; the spectacled doctor, duly armed with pill box and Eau de Cologne bottle (the latter filled with salt water and closed by a cork



spiked with three or four needles), stands prepared in his place; the barber, ready with his notched razor a yard in length, calmly awaits his victim; and, whilst the initiated long in "sportive earnestness" to witness the coming fun, "skulkers" and "youngsters" behold with dread the awful disclosures in store for them. Surely no Freemasonry ever involved such initiation as this. How many would gladly pay rather than be dragged through the disgusting ordeal? But, however leniently the majority may be dealt with, for the "skulker" there is no hope. The doctor feels his pulse, and declares that a pill and a sudorific draught are indicated; if the unlucky wight refuse to open his mouth, this is enforced by a pair of tweezers being brought to bear upon his nose, when a tar brush is rudely thrust in; his teeth are roughly scraped with a butcher's knife; blisters are suggested, by the doctor, for a variety of disorders from which that skilful allopathist suddenly discovers his patient to be suffering; and, if symptoms of exhaustion supervene, the Eau de Cologne bottle, above described, is first applied to his nose, and the contents then poured down his throat. His head is covered with a plaister of tar to make the hair grow; and he is finally consigned to the tender embraces of the bear, who, hitherto ensconced in the bottom of the sail, now springs up and, dallying with his victim, hugs him to within an inch of his life.

Many, however, are not shaved; but are merely thrown into the sail and soused,—whilst a hose with water is made to play upon them. In the humorous language of Nelson Coleridge these are refreshed with

"The duck courteous, the duck oblique,
The duck direct, the duck upright,
The duck downright, the bucket duck,
The tub duck, the shower duck, and
The duck and drake."

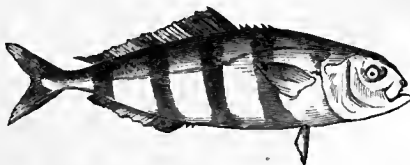
NOTES.—The above description refers rather to the past than to the present time. The "Neptune scene" is now-a-days *rarely* acted in *all* its features; which have here been aggregated together, from different sources, more to give as complete a view as possible of this singular and (so far as I can learn) peculiarly English and fast waning custom, than to produce a picture which is realized at every first crossing of the line.

In many ships, from its obvious offensiveness, it is not allowed at all; and in those where it is the performances are generally,—at least in 1st class vessels,—of a comparatively mild character. Passengers may escape altogether on payment of a small gratuity,—regarded as a fine. Very serious consequences have sometimes resulted in connection with the Neptune ceremony; on one occasion a youngster threw himself overboard and was drowned rather than encounter it; and a Mr. Maw once obtained 400 rupees (£40) damages on arrival at Bombay. A blue hook order has forbidden its further practice in the Navy.

The Coryphæne (which, like the chamæleon, assumes various hues), is not a dolphin, as frequently supposed. The dolphin, indeed (which is a species of whale and not a fish at all), will eat flying fish as soon as anything else; but the normal aquatic enemy of these helpless creatures is the *coryphæne*, as represented in the wood cut. They are very tolerable eating.

Flying Fish (*Exocoëtus Volitans*), propel themselves with great force out of the water, leaping through a curve, which they describe in their rise and fall. They only *skim* as it were, and do not *fly*; though it is very difficult to persuade one's-self of this. They feed upon mollusks and other smaller fish. Their own flesh is very fair eating. Flying fish are attracted by light; and thus are sometimes caught in the fore-chains of a ship.

The Tropic Bird, or *Phæton*, (so called, because from their habit of being confined to the tropics they were supposed to be attached to the chariot of the sun), flies hundreds of leagues out to sea; and yet, though apparently trembling and worn out, it will "drop down from a considerable height, abandoning itself to its weight, and seize the fish without diving." In pursuing the flying fish, however, upon which they chiefly prey, tropic birds shave the surface of the water. Having webbed feet it is supposed that they can repose on the ocean when far from land. They make their nests in the holes of precipitous rocks and in hollows of trees; and the young "yet in the nest gathered up in a ball, and covered with a down of the most brilliant white, have a resemblance to powder puffs. * * Of the long tail feathers (sometimes 24 inches), the Otahetians make plumes for their warriors." The tropic bird, on seeing a ship from the distance, will come and hover over it to reconnoitre. It is said that they are attracted, too, by the waving of glaring colours,—as of a red handkerchief at the mast head.



THE PILOT FISH.



THE SUCKING FISH.

The Pilot Fish (*Naucrates Ductor*),—the sacred Pompilius of antiquity, and companion to modern sharks,—is a *mackerel*; and a very excellent eating one too. It has been known to attend ships during their course at sea "for weeks and even months together." The association of the pilot fish with the shark has been variously interpreted; but the more common belief is that it guides the shark in that monster's choice of food,—leading it where the morsels are good and "worthy of its steel," and turning it from those which have a *hook* in them. Even sharks, however, sometimes despise warnings, and get caught.

The Sucking Fish (*Echeneis Remora*), is remarkable for the flattened, oval, adhesive, vacuum-forming disc, on the top of its head, by means of which it can attach itself to the bottoms of vessels, or to other fish; but whether for protection or conveyance, or both, is not known. Mr. Gosse thinks it may acquire a leverage in this way, whilst detaching its parasitical prey from the sides of the ship.

MARTIN VAS, AND TRINIDAD.



THE SOUTHERN CROSS.*

The next excitement offered to the outward-bound, after getting the S.E. trade, consists in a transient view of some hazy looking objects in the "far west," which turn out to be the barren rocks of Martin Vas. They are three in number, but a few miles apart from each other, and the central and largest is situated in $20^{\circ} 27' 40''$ S. Lat., and in $28^{\circ} 52' 38''$ W. Long. Trinidad (not the West India island), another barren rock bearing S.W., is about 26 miles distant from the rocks of Martin Vas.

The history of these islands is simple enough. In April, 1700, Captain Halley (afterwards Astronomer Royal), landed on Trinidad; took possession in the King's name; and left the Union Jack flying. In 1781 it was visited by English speculators to ascertain if a settlement was practicable. Their report was unfavourable. Various roots, planted by Capt. Johnstone on the different heights, perished for want of water.

Indeed Trinidad is, "at best, no more than a cluster of rocks, with some shrubs in the valleys." On the West side there "stands a stupendous arch or hole in the rock, like that of Fernando Noronha, and two very remarkable rocks, one called the Monument and the other the Sugar Loaf. * * The arch is a natural passage, made by the sea, through a bluff about 800 feet high; it is 40 feet in breadth, nearly 50 feet in height, and 420 feet in length; the depth of water about three fathoms. When the sea is moderate, you may see through the arch into the only bay in the island, and have a view of a distant rock covered with trees, which renders the prospect extremely picturesque." If ships are very hard pressed for water, they may get it at Trinidad; but "the whole is so iron-bound a shore, and such a swell surging against it, that it is almost impossible to land a boat without danger of staving it."

The Portuguese seem to have tried to make something of Trinidad; but they, too, like the English, subsequently abandoned it. Nothing appears to flourish there, save wild hogs, cats, and goats. There is, however, one redeeming point about Trinidad; it is an "excellent place to recruit the crew of a ship suffering from scurvy, as there is abundance of fine purslain and several other kinds of greens on the S.E. part of the island; with plenty of sweet water."

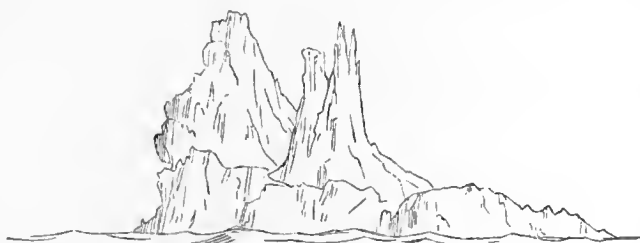
* It consists of four bright stars, the three lower of which are immersed in the milky way. The upper and lower are the pointers to the South Pole.





TRISTAN DA CUNHA

TRISTAN DA CUNHA.

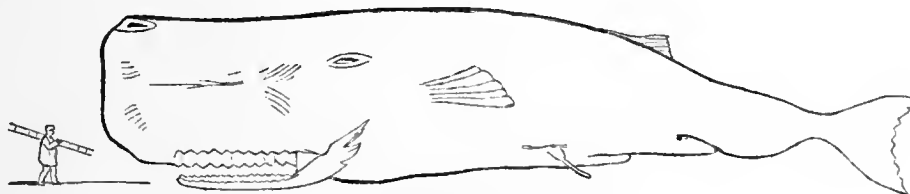


AN ICEBERG.

Fucus Giganteus (sea serpent)? which often floats far out to sea. This volcanic island is nine miles only in diameter; with a peak resembling somewhat that at Teneriffe, 8,326 feet high. Wild hogs and goats abound in the interior; and sword fish, sea lions, whales, seals, albatrosses, penguins, gannets, cape cocks and hens, &c., frequent the coast.

Americans appear to have first settled here; and, in 1811, one Jonathan Lambert declared himself sovereign proprietor. They cleared about 500 acres; sowed several kinds of seeds; and prepared seal skins and oil for vessels that might touch at the island. It was eventually abandoned by them; and possession formally taken, in the name of the British, in 1817. It was, however, again evacuated. Finally, in 1824, one Glass, an artillery corporal, who had been previously quartered here, occupied the island with his own family and a few others; he himself being constituted chief. Emigrants from the Cape, and stragglers from the South Sea whalers, have so added to the little colony, that it now musters, after a growth of about 30 years, upwards of 100 souls,—consisting of whites, and a mixed race between the white and the Hottentot. The commodities offered by the colonists are fish, an abundance of every kind of English farm production, with, may be, a Cape sheep or bullock, in return for tea, sugar, coffee, wine, spirits (Americans give them bread), needles and thread, tape, &c. They prefer this system of barter to taking money; and their apparent simplicity and contentment forcibly remind one of the people of Pitcairn Island. They are all Church of England Protestants; and have, for years, evinced a desire for a schoolmaster to settle amongst them. In 1849 the Society for the Propagation of the Gospel sent them a clergyman, to be paid out of funds provided by a benevolent, but anonymous, individual who had touched at the island. Prior to this, old Glass, a patriarch with seven sons and eight daughters, had been minister as well as chief. When I visited Tristan Da Cunha, in 1844, in the *Sophia* (an old tub which has since foundered with every soul on board), the inhabitants were very anxious for a medical opinion on certain cases which they feared were scrofulous. Their fears were too true; malignant disease was amongst them; and poor Glass has since, himself, become a victim to cancer of the lip. Tristan Da Cunha, however, is said to have a very healthy climate.

Inaccessible and *Nightingale* Islands complete the triangle. Both are volcanic; and uninhabited. The former is famous from the *Blenden Hall* having been totally wrecked upon it in 1821. The captain wished to make the island to correct his reckoning; a fog came on; and the first intimation he received (after the sea weed), of having succeeded in his wish, was when he saw the island towering above the ship's head! Some ten persons were lost; and the remainder, after living for eight months on penguin's eggs, were transported, first to Tristan Da Cunha, and eventually to Bombay.



THE SPERM WHALE.

NOTE.—The *Cachalot*, or *Sperm Whale*, with a head sometimes half the length of the entire body, and often exceeding it in bulk,—the most powerful animal in the ocean,—is chased for the *spermaceti* which, mixed with oil, is found in a series of cells arranged within the skull. Ambergris, too,—valued by some for its scent,—is found in the intestines, where it exists as a product of diseased action, in connection, it is supposed, with indigestible food.

This group of islands was known to the early Portuguese navigators, who named it. It was known to the Dutch in 1643; and to the French in 1767. The exemplary young clergyman—the Rev. W. F. Taylor—provided by the munificence of the anonymous individual referred to, left the island about two years, or more, ago, together with a majority of the inhabitants, who migrated, with him, to the Cape. This information has been kindly placed at my disposal by the Rev. Ernest Hawkins, Secretary to the Society. It was not considered advisable to continue a missionary in an island unsuited for general colonization. However, there it is, with some inhabitants upon it still; and a very useful “oasis” it proves sometimes to the “outward bounder.”

THE MAURITIUS.

This island, the scene of St. Pierre's delightful tale of Paul and Virginia, and of a French governor's unrequited energy and vigour, of an irregular oval shape, about 200 miles N.E. of Bourbon, and 500 E. of Madagascar, is situated between $19^{\circ} 58'$ and $20^{\circ} 32'$ S.L., and $57^{\circ} 17'$ and $57^{\circ} 46'$ E.L.; and within the influence of the S.E. trade. It is some 36 miles long, its breadth varying from 18 to 27 miles, and has an area estimated at nearly 500,000 acres. The coast is surrounded by reefs of coral (said to be 80 fathoms wide, and 10 feet above the level of the sea), through the few openings between which vessels can approach the shore; and, at these points, the military defences have been established. *Port Louis*, situated on the N.W. side of the island, at the bottom of a triangular bay, with a narrow and difficult entrance (twenty strokes will pull a small boat across), occupies the greater part of an extensive valley, surmounted by lofty basaltic hills,—the chief of which are the Pouce and the Pieter Botte. It is the capital,—and the seat of government; which is vested in a governor and a colonial legislative council. The port, though a good one at other times, is not safe in January, February, and March,—called, *par excellence*, the hurricane months. *Port Louis* has little to boast of; with its low wooden houses (waxed and polished as in Paris); and filthy suburbs. And yet, in spite of defective drainage, uncleanness, bad ventilation, and a high temperature, the town is pretty free from sickness,—a fact which, it is alleged, speaks well for the general salubrity of the air. *Nous verrons*. Absurdly stringent quarantine laws, often the cause of great misery to immigrant coolies from India, are enforced to *keep out* disease; whereas the self-produced seeds of a pestilence are already in the town, and only await, as in plague, the focussing of the necessary elements to take vigorous root, and decimate the population.

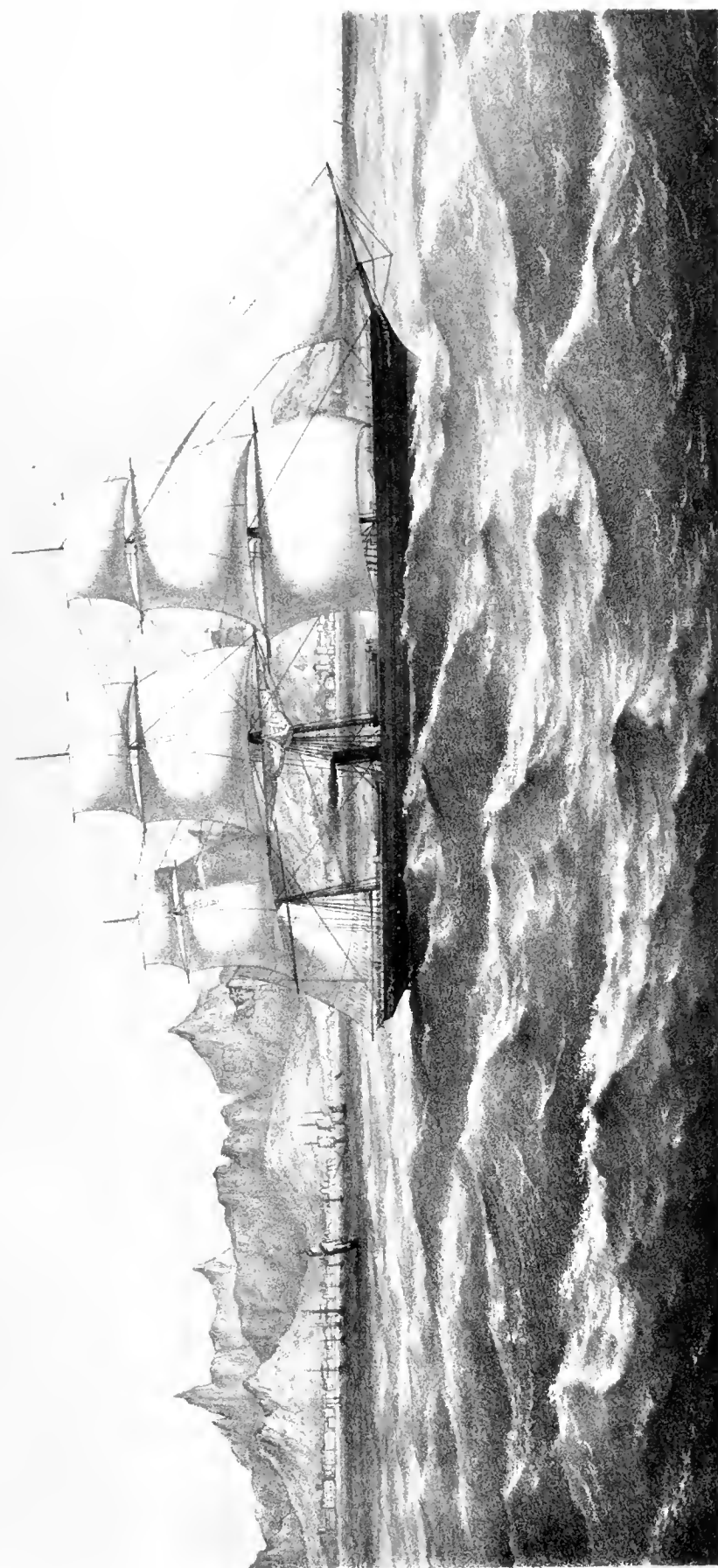
The sword of Damocles hangs over Port Louis.

The charms of the *Mauritius* are to be found in the interior; where “the land forms three chains of mountains, from 1,800 to 2,000 feet high, intersecting the country in different directions, except towards the summit,” where rugged peaks rise abruptly, like the sharp pointed steeples of modern English churches. These mountains are, in many parts, cleft into deep ravines, through which numerous rivulets find their way to the low grounds, and terminate in about twenty small rivers, by which the whole line of coast is well watered, and which might be indented upon to facilitate the drainage of the town. There are several small lakes in the centre of the island. Many of the ravines are the very “perfection of romantic retreats,” disclosing “the most picturesque scenery, where the forest, the water-fall, the cane-covered slope, and the craggy mist-shrouded mountain, mingle in happiest combination.” Most of the higher public functionaries and the merchants live in delightful country residences, and drive into town in the morning. The mean temperature of the highest lands is about 70° , and this is 7° or 8° lower than at *Port Louis*. The climate, which varies with the side of the island, is, without being bracing, very pleasant and healthy; and has, moreover, this “grand advantage * * that when the weather is hottest in India it is coolest” in the *Mauritius*. Formerly, prior to the new furlough regulations, and the rapid communication effected by steam (advantages which, now-a-days, induce sick officers to go to England at once, instead of elsewhere, for health), a six months' leave to the *Mauritius* was considered a very desirable change,—involving about two months of sea air, and four of a cool climate. Many, however, may still go there. Those, who do, should take their own servants (they are best who think least about caste), their own camp equipage, and four months' supplies; and engage a small house in the environs of *Port Louis*; or board and lodging may be obtained with a family in the interior. The island being dependent on



THE SAILING SHIP

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India, Bourbon, and the Cape for provisions, everything is enormously expensive. The soil is exceedingly rich, and mixed occasionally with iron ore (a chalybeate exists), and the *débris* of volcanic rock. On the equalization of the sugar duties, in 1825, an immense impetus was given to the cultivation of this luxury, to the almost total exclusion of coffee, cotton, and indigo, which had formerly been cultivated in considerable quantities. Sugar is now the chief article of export, and nine-tenths of it comes to England. Ebony and tortoise shell are the next principal exports.

The population, estimated at some 200,000, consists of whites, creoles, emancipated slaves, and coolies from India. The common language is a Patois, in which French prevails; indeed there is a leaning to that tongue in the island, in preference to any other. The creole society is of a buoyant mercurial material, which pinches itself nine months in the year to indulge in finery and gaiety the other three. There is, nevertheless, a strong tendency to cultivate the arts and sciences; and some of the internal regulations (not the sanitary ones), are worthy of imitation. The French always retain their habits wherever they are; but the *Mauritius* is not a modern Capua; liberty has had its chastening influence.

The *Mauritius* was discovered by the Portuguese in 1505; seized by the Dutch (who called it after Prince Maurice), in 1598; gradually colonized by occasional French settlers from 1657 to 1721; and finally ceded to the British in 1815.

NOTE.—*Pouce* and *Pieter Botte*. Both of these hills are perfectly bare, and very accessible; except the head of *Pieter Botte*. The view from the top of *Pouce*, embracing both the windward and lee sides of the island, extending to the sea on either side, is exceedingly picturesque; its beauty being much enhanced by the transparency of the atmosphere.

See "*McCosh's Advice to Officers in India*;" "*McCulloch's Geographical Dictionary*;" "*Mouatt's Rough Notes*," &c.

CEYLON.

To attempt to give a sufficiently worthy description of so interesting an island as Ceylon,—the Lanka of the Hindoos, and head quarters of Buddhism,—in a work which deals only with outlines, would be impossible. Whilst referring the reader, therefore, to the many elaborate publications which treat of this "terrestrial paradise," it may merely be remarked here that all the beautiful scenery is confined to the interior; that Point de Galle, the halting place for all the steamers, lies at the south extremity of the island (which, 270 miles long by 150 broad, is itself like a pear cut in two down the middle); that it is at all times a hot, steamy, and oppressive place, with frequent deluges of rain, and must not be stopped at by invalids; that Colombo, 80 miles off, the seat of government (which is vested in a governor and council, with a supreme court of final appeal), is very little better; that at *Kandy*, the old kingdom of Ceylon, 1,500 feet above the level of the sea, there is a cantonment for European troops; that *Newer Ellia*, 6,200 feet high, has a convalescent dépôt (with a thermometer averaging from 35° to 75°), where a short residence in fine weather is much prized by the residents, but little appreciated by Europeans from India; that a stage coach, running on alternate days, communicates between the three places; that wild elephants, though small, abound, and seem to supersede the royal tiger, of which there are none; that rice, cinnamon (which has no smell, save in the bark, and the plantations of which are not attractive), coffee, and cocoa nut palms are the chief vegetable products of Ceylon; that various ores (of which plumbago is the principal), and all precious stones, except diamonds, are met with; that there are numerous rivers, but few navigable many miles from the mouth; that there is a valuable fishery of the pearl oyster on the N.W. coast; that the population, estimated at 1,130,000, is composed of Cingalese, Malabar Indians, Veddahs (wild aborigines confined to the mountains), and Christians; that Ceylon has been now a Portuguese, then a Dutch, and eventually, since 1815, an English colony; that the interior is divided into low country, hills, and mountains, from which last Adam's peak rises up 6,300 feet high, and where pilgrims go to see the supposed impress of Buddha's foot; that the geology displays a primitive formation of rock; that the Gulf of Manaar, studded with the sand banks so dangerous to navigation, and called Adam's bridge, separates,—with Palk's Straits,—Ceylon from India; and, lastly, that, though British enterprise has done much for this colony, its resources are still far from being thoroughly developed; and that, it is hoped, every branch of industry will receive an additional stimulus when the proposed electric telegraph shall have connected the island with Bombay, Madras, and Calcutta.

NOTES.—*Cocoa nut trees*. These trees, which are often 60 feet high, are grown in topes,—in the proportion of 80 trees to an acre,—of sometimes 300 acres in extent. Each tree will yield from 25 to 50 nuts (the former if under native, and the latter if under European cultivation),—gathered in alternate months,—a year; and it will bear for 80 or 90 years. As many as 200 nuts have been gathered at one time from a prolific palm. The cocoa nut is calculated to yield a full crop in 10 years. It will flourish without any reneration of soil; dependent only on accidental and occasional manure. It has its enemies, however,—as the squirrel, which loves to nibble off the tender bud of the flower,—the *cooroominya*, or cocoa nut beetle,—and a peculiar worm,—to say nothing of monkeys, elephants, wild hogs, jackals, white ants, and porcupines. The account to which the Cingalese villager turns this invaluable tree is astonishing. He makes his hut and bullock stall of the wood, and thatches the roof with the leaves. His bolts and bars are made with slips from the bark, with which he also suspends his shelf. He plait its green leaves together, and calls them dishes. He makes his fishing net of the fibre, and his canoe of the stem. If he is thirsty he drinks the milk from the nut; or appeases his hunger with the cocoa nut jaggery,—a kind of coarse sugar resembling inspissated treacle. A bunch of cocoa nut blossoms is hung over the couch of his new-born infant (which swings in a net of coir-string made from the husk of the fruit); and the same blossoms are suspended, to keep off evil spirits, over the graves of the dead.

The dried fruit, or *coppereh*, yields the well known oil (which promises to vie with cod's liver oil), and the refuse dry cake, or *poonac*, is an excellent food for poultry and cattle; and a good manure for the palm trees themselves. The manufacture of arrack is in the hands of the natives, who pay £60,000 annually, or $\frac{1}{4}$ th of the revenue, for the monopoly.

See "*Capper's Pictures from the East*," &c.

CALCUTTA, MADRAS, AND BOMBAY.

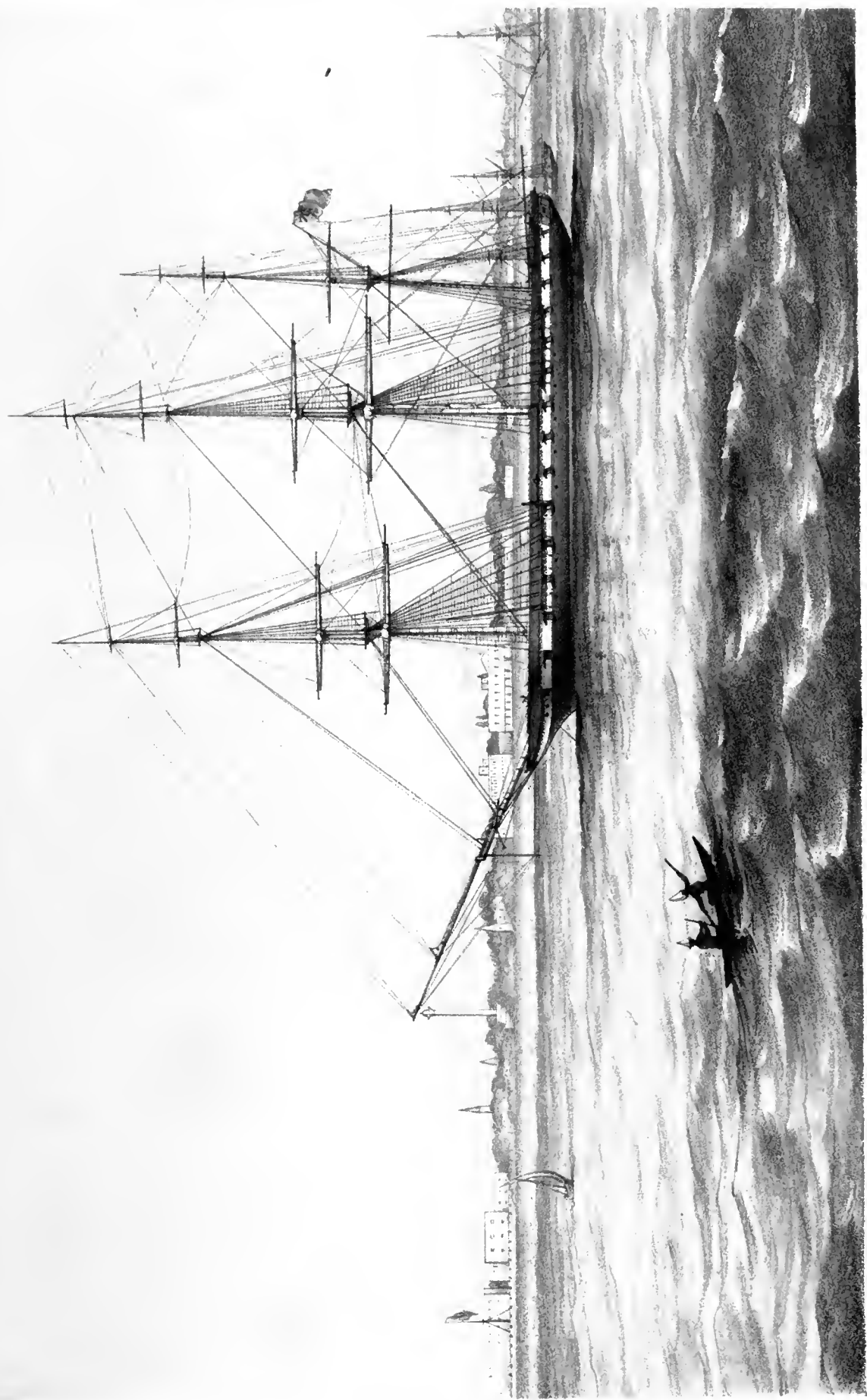
The three presidency towns of India are too well known to require any lengthened description here; and, if not, they soon will be, within a week of his landing, by the passenger, for whose especial use this work is intended. Whilst Madras and Bombay have each their governor and council, with a supreme court, a commander-in-chief, and a bishop, whose functions are limited to their respective and comparatively small presidencies, Calcutta boasts of an omnipotent Governor-General, who, with the aid of the same machinery, controuls them all, and over-rules a quarter of the habitable globe; of a metropolitan whose diocese is 3,000 miles long (!); and of palatial residences, which have earned for it the name of the very *city* of palaces itself. Whilst Bombay has its magnificent harbour capable of containing 1,000 sail at once; and Calcutta its capacious river, which can give safe anchorage to a perfect forest of shipping, but which is, nevertheless, quite unsuited to receive the Leviathan of Mr. Brunel; Madras can boast only of an open roadstead, with a low and unapproachable shore, which, on account of the heavy surf, can only be reached by muscullah boats and catamarans. Whilst Bombay and Calcutta vie with each other in the variety of their population,—men of all creeds and colours jostling with each other in every street, and presenting, when turned out for their evening drives, an array of picturesque confusion unparalleled in any city in the world,—whilst the former boasts of its execrable *Bummalo* and enlightened Parsee, and the latter of its exquisite mango fish and polished Hindoo (who never looks so innocent as when contemplating the most atrocious villainy), Madras can furnish capital curries and excellent servants, to whom caste,—happy those they serve,—is no great object; and, above all, an alternating land and sea breeze which go far to raise this "benighted presidency," in a *feeling* point of view, high above its fellows. All are occasionally visited with terrific gales. Those at Bombay and Madras are generally attendant on the S.W. monsoon; but Calcutta is more noted for its Nor' Westers; which, like the S.E. at the Cape, may be called the Doctors of the Town.

NOTES.—*Bummalo*, a fish called also Bombay duck. The Europeans in Bombay, from their fondness for this fish, are styled "Ducks." The *Bummalo* is very good when fresh, but it is often brought to table in a *dried state*, when the smell from it is far from savory. Such an "*argumentum ad nasum*," at the close, too, of an excellent meal, I could never understand. In Madras the Europeans are called *Mulls*, from their love of fiery food,—of *Mulligatawny* particularly; and, in Calcutta, they are nicknamed "*Qui Hyes*," because, instead of using a bell, they call out, or should do, "*keee hy*," meaning "is anybody there."

The *Catamaran* is nothing more than a plank on which a couple of fish-like natives, dressed like Adam after the fall, paddle themselves between the ships and the shore, taking and bringing letters, &c., in their conical mat hats. Years ago, before India was so well known, one of these Catamarans was descried off Madras, rather far out at sea, and the apparition was gravely entered in the ship's log, as one of two black imps having been distinctly seen playing at single stick!!

The *Muscullah Boat*, which somewhat resembles the half of an egg-shell divided length-wise, consists of planks sewn together with threads made from the cocoa nut fibre. No nails are used in its construction; a fact which accounts for the elasticity of the boat, as it rides, unharmed, through the surging waters. But, occasionally, even these boats can't live in the surf; and then Catamarans only are used. "Who can stand on the beach at Madras," writes Dr. McCosh, "with the rail on one side and the roadstead on the other, and not see the difficulties of transporting the enormous traffic that must soon pass between them? Who can look at the present barbarous mode of transit through the surf and not feel humiliated that * * * Britannia does not rule the wave at Madras, but is glad to give up her trident to primitive bare-bottomed natives, and place herself under their command?"







AT THE SANDHEADS



B O M B A Y

Upon the principle that "as the wave rolls inward, the lowest stratum of water is retarded by friction against the bottom; * * and the upper one, not so retarded, outstrips the lower stratum, topples over, and breaks into a surf," Dr. McCosh proposes to establish "an artificial floating breakwater" (he adduces instances of natural ones to prove his point), composed of Indian-rubber or gutta percha filaments, "made to resemble cocoa nut leaves, and equally flotile," to be connected together along the shore, as broad and as long as may be necessary, and kept in their places by a system of cables and buoys. Now that India is so much in the English public mind, it is to be hoped that this suggestion will be considered.—*Vide McCosh's Advice to Officers in India.*

A CHAPTER ON WIND.

Winds are divided into perennial, or trade winds; periodical,—as land and sea breezes and monsoons; and variable, or erratic, winds. The trades especially illustrate the saying, that the "wind follows the sun." Between the tropics the sun is ever present. The air there is, therefore, being constantly heated; is in consequence constantly ascending; and, as constantly, leads to the flow of colder winds from the two poles to supply its place. These are the *trades*. Beginning from the two extremities of the globe, as due North and due South, they generally become deflected, so as to become N.E. and S.E. Why? Because the earth, towards, and at, the equator, revolves more quickly than at the poles; consequently the trades lag, hang back, and "*drag upon*" the surface in the direction opposite to the earth's rotation, viz., from East to West. Thus, from "simple Northerly and Southerly winds, they become permanent *North-Easterly* and *South-Easterly* trades. What becomes of the heated equatorial air? Rising and flowing towards the poles, it carries with it a rotary velocity much greater than that of the surface over which it passes in its northward and southward progress. Hence it will gain more and more on the surface of the earth, and assume more and more a *westerly* relative direction; and when, at length, it necessarily returns to the surface in its circulation, which it must do, more or less, in all its course, it will act on it by its friction as a powerful S.W. wind in the northern hemisphere, and a N.W. wind in the southern, and thus restore the equilibrium. This is the origin of the S.W. and westerly gales so prevalent in our latitudes, and of the almost universal westerly winds in the North Atlantic."

The *trade winds* are liable to great variation. They will even "haul" towards a point contrary to their normal direction,—influenced, in such instances, very much by *season*, proximity to land, and other causes.

The equatorial limits of the trades will, obviously, vary with the time of year. "The N.E. prevails at a mean between 8° and 28° N.L. The limits of the S.E. are, at a mean, the parallels of 3° N. and 28° S."

Between the point where the trade winds cease and the "variables" begin, there is a space remarkable for its "changes of wind," accompanied by "sudden gusts and calms, rain, thunder and lightning." All of us are familiar with the doldrums,—or the intra-tropical zone between the trades.

A *periodical wind*, or "land" and "sea" breezes, which alternate with each other in the 24 hours, is thus produced. During the day, the parched land is infinitely hotter than the adjoining ocean. Heated air rises, therefore, from *it*; and the cooler sea breeze flows into its place. At night the earth cools by radiation, whilst the sea retains most of its heat. Hotter air then rises from the latter, and the land breeze blows over the waters.

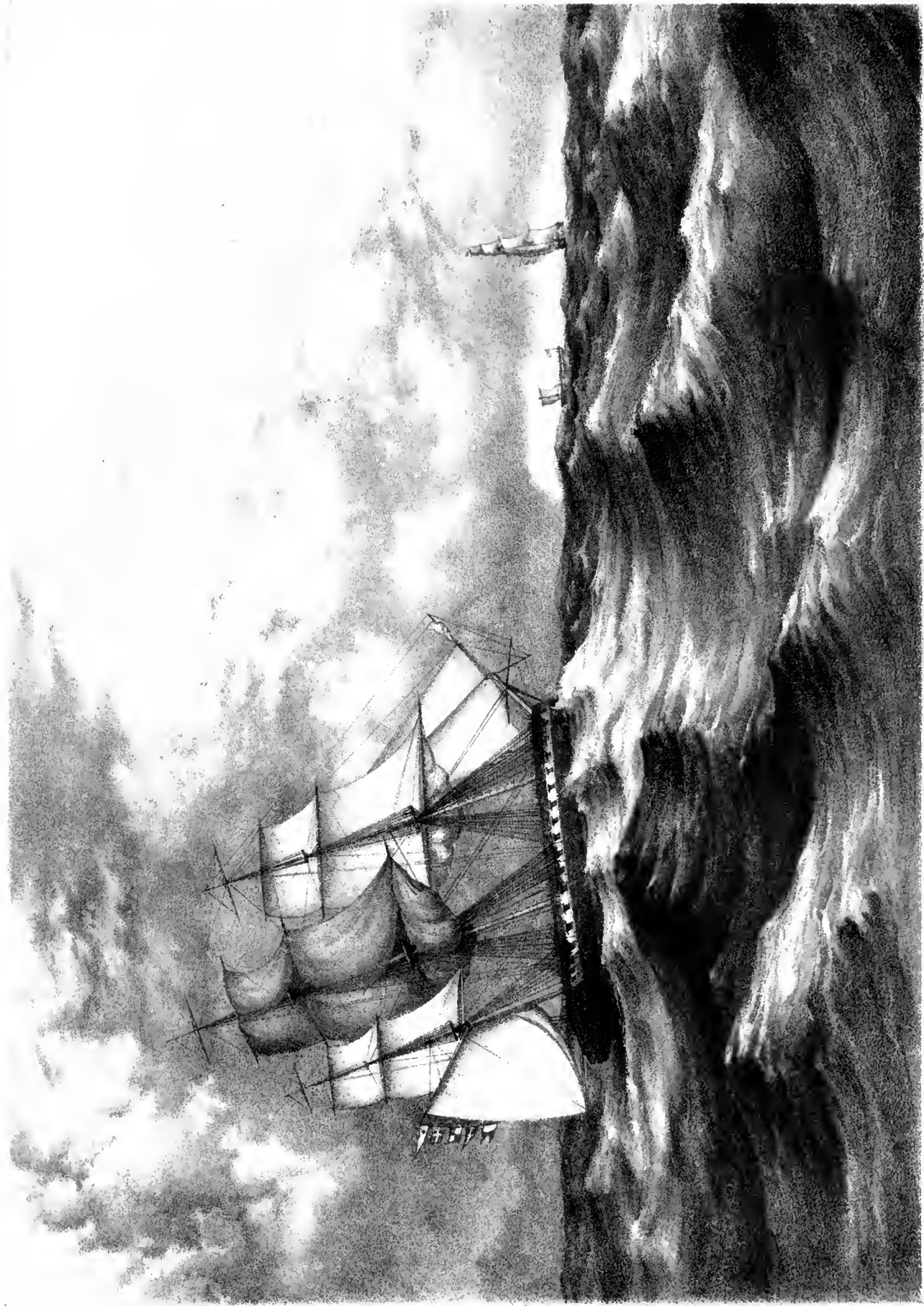
Monsoons. This is a term derived from the Malay *Moussin*, signifying a season. "From November to March a N.E. wind reigns north of the equator, making its appearance *sooner in the Arabian than in the Bengal Sea*; while at the same time a N.W. wind blows south of it. * * From the middle of April to the end of September * * a S.W. wind blows north, and a S.E. south of the line." From the "middle of March to the middle of April, and from the middle of September to the middle of October," there is a lull, in which "the changes of the monsoons are effected, * * and calms and light breezes, alternating with gales, hurricanes, and thunder storms. It is a remarkable fact, that as soon as one monsoon ceases, though a month elapses before the succeeding one appears, the clouds at once take the direction of the approaching monsoon, and herald its coming to the regions below. * * The monsoons (though produced on the same principle as trade winds), are much stronger, and often amount to gales."

A *gale* is a somewhat comprehensive term, applicable alike to a fresh trade as to a prolonged squall, or a strong ordinary wind. But *hurricane* implies an atmospheric meteor of a very different nature. Thanks to the labours of a Redfield and a Reid in the western, and of a Piddington and a Thom in the eastern hemispheres, hurricanes are now known to have a definite, *and, to some extent, an avoidable* course. The "Law of Storms" has supplied the sailor with a guide, by the assistance of which he may now encounter, with comparative indifference, the most tempestuous hurricanes, and the deadliest tornadoes. Many sailors, unhappily for themselves, will not believe in the law, and so lose, or seriously injure, their ships. The old-school mariner, when overtaken by a tempest, bares his poles and scuds before the blast. Round and round he goes, until at length his damaged vessel, either luckily gets edged out of the circle, and so escapes, or wheels helplessly to the centre of it, and there founders,—a sinking victim to incredulity and folly.

We are all familiar, even in England, with the little circular currents and eddies,—miniature whirlwinds,—which, suddenly encountered on turning a corner, so seriously disturb the equilibrium of ladies' dresses. The dust storms of India (ably described by Dr. Baddeley), though on a much larger scale, have precisely the same character; and so have the great hurricanes of the tropics.

But, whilst the dimensions of the former may be told in yards, those of the latter must be estimated by *miles and hundreds of miles*. From their spiral formation the term *cyclone* has been given to these storms, and this is the generic name applied in the present day to all tempests having a rotary character. What used to be thought a *straight* wind, blowing with hurricane force from one point of the compass to another, is now known to be a *revolving circular wind*,—a wind having not only a revolution on its own axis, but moving in a huge curve, and destined either, if uninterrupted, to continue its course round the world; or, where resisted by elevations of land, to degenerate into a snow storm, or become disorganized into "variable," or erratic winds. Sir J. Herschell attributes their *origin* to a casual *intersection* of two or more of those atmospheric undulations, or barometric waves, which, like the waters of the earth, have their "ebb and flow," as it were, in the heavens. Two or more of these, he thinks, coming together from different directions, may, "from their opposing forces, cause the phenomena of hurricanes and rotary storms." With a diameter ranging from 40 even to 1,000 miles, they travel at a rate varying from that of ordinary walking to the speed of an express train! Moving in a known direction, depending on the side of the equator, it is a great object with the navigator to avoid "the centre of rotation, where the greatest danger is to be apprehended." The centre of the storm has, however, not always the same character. Sometimes a perfect calm prevails; and that, too, of considerable extent. More commonly, however, as the strength of wind concentrates towards this point, "sudden shifts take place, heavy and confused seas break," and a ship is very liable to be taken aback. Where a ship has been *overtaken* by a hurricane, and nobody knows how it is travelling, one of two things must be done, *viz., heave-to or run*. Both, under such circumstances, are desperate measures. Under the first alternative, the storm is defied, and the chance taken of being blown directly into the middle of it. Under the second, with an equal chance of gyrating into the centre, the ship may be blown round and round, lose her masts, and eventually founder; or, more happily, be driven out of the vortex altogether. It is impossible to over-estimate the value of indications of the barometer in the hurricane latitudes; for, often, nothing else gives any sign.

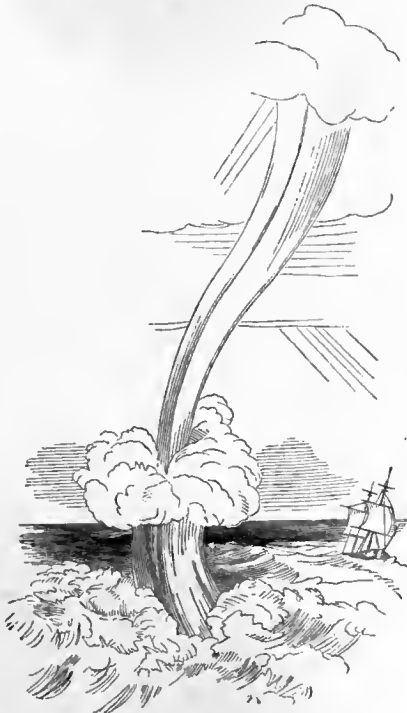
The day has been fine; light airs only have disturbed the glassy surface of the deep. It is sunset; and half the Indiaman's world is on deck. Passengers are distributed into groups, discussing,—here the fragrant weed,—there tea,—everywhere each other. Middies, at the lee gangway, listen to the nautical old doctor's yarns, or spin their own. Fiddling and dancing *for'ard* proclaim the innocent merriment of Jack. The officer of the watch whistles for a wind. The majestic ship, with every stitch of canvas set, absolutely rolls for want of some, however little, to steady her. Is there none coming? Mark the captain; see him leave and return to the deck; observe how he peers into every quarter of the heavens; *and be sure that there is*. *His barometer has fallen considerably*. True, the sky is clear; but the latitude is a hurricane one, and caution is requisite. Forth goes the order, penetrating to the depths of the ship, "watch, shorten sail." Everybody is roused. Passengers wonder, whilst the sailors work. The smaller sails are taken in; an hour passes; but still the heavens make no sign. Another hour; the barometer descends yet lower; and now the eastern horizon has assumed a dark cinereous hue. "All hands, shorten sail," sounds through the ship, and fifty gallant seamen turn out to "make snug" for the coming tempest. Amid the squaring of yards,



AFTER A HURRICANE, OFF THE MAURITIUS

reefing of topsails, closing of ports, &c. &c., the captain calculates its course. The wind rises, fitful and gusty at first; but soon blows a steady gale. The sky becomes more overcast. The crisis approaches. Eight bells have hardly tolled the midnight hour, when a sound, as of a "rushing mighty wind," drowns that of every human voice in the ship. The crisis has arrived. The huge vessel groans under close reefed fore and main topsails, like a "gigantic skeleton in its agony;" "top-gallant masts quiver like reeds;" and shrouds give forth their music as of "Æolian harps played upon by a tempest." "Let go the topsail haul-yards," roars the officer of the watch,— "down with the helm,"—"let her come up,"—"hard down,"—"aye, aye, Sir; down it is,"—and bravely is the storm defied by the well-built Indiaman and her skilful chief. The crisis has passed. During the "heeling over," some have, perhaps, been rolled out of bed; badly secured property has gone crashing about the cabins; and a general alarm has manifested itself under many a night cap. But the ship is safe; and a strong sail blown into shreds is the only evidence left of the strength and fury of the storm. Morning dawns, and the wind abates. Again the sails are set; "lay aloft,"—"trice up,"—"lay out,"—"cast off your points,"—"call the fiddler,"—"sheet home," and away we go, with a steady breeze, into fine weather again.

The "Marlborough," homeward-bound, encountered a terrific squall, from the N.W. on the night of the 6th April, 1847, about 800 miles S. of the Mauritius. Two mornings afterwards, in latitude $30^{\circ} 22'$ S.L., and $37^{\circ} 55'$ E.L., we fell in with an unfortunate brig, the "Ione," which, on the night in question, had been dismasted; and was then under jury masts, as represented in the sketch. The Dutch ship "Nassau" was helping her with ropes and spars to get into the Cape with; so the "Marlborough," after sending an officer on board the brig to offer assistance, not being required to stay by her, too, filled her sails and proceeded on her voyage. The "Ione" got safe to port; and was eventually turned into a schooner. [See "*Captain Methven's account of the Blenheim's Hurricane*," and "*Purdy's Sailing Directory*," &c.]



NOTE.—As eddies and whirlpools are formed by the meeting of two currents at an oblique angle, so are whirlwinds produced by the meeting of two opposite winds, which, struggling for mastery, usually form into a double hollow cone. In passing over seas, rivers, or lakes, the water rises in the lower cone, and meeting the clouds brought down by the upper, constitutes a water spout.

CAPE OF GOOD HOPE.

The southern promontory of Africa, a peninsula from 30 to 40 miles in length, composed of a vast mass of mountainous and rocky land (chiefly granite, gneiss, clay, slate, and green stone,—with some sandstone), separated into two portions, and from the main, by a narrow isthmus of low sandy plains (10 miles long), has been generally designated as the *Cape of Good Hope*. The actual Cape, however, is at the southern-most extremity,—where a precipitous cliff, with a peak, rises 1,000 feet above the level of the sea. A mile eastward of this, and about a cable's length from the shore, is the *Diaz Rock*. It is the land in this neighbourhood which is seen in the moonlight view “off the Cape.” The “*Alfred*” (Captain W. H. Pope), is there represented as bound by a westerly gale, and unable to get round. May 17, 1857.

Cape Town,* in *Table Bay*, so familiar to all Indianmen, lies at the north end of the promontory, on the western side; whilst *Simon's Town*, in *False Bay* (a harbour of refuge when *Table Bay* is unsafe), is situated on the eastern. There is easy land communication across the peninsula between the two. Cape Town, the capital of the colony, is surmounted by a series of heights, which have been oddly named the “*Devil's Berg*,”† “*Table Mountain*” (so celebrated for its *Table Cloth*),‡ and the “*Lion's Rump*.” From the peak of the Berg to the Rump of the Lion is an amphitheatre of 5 or 6 miles in diameter.

The streets are straight and spacious; and the stone-built houses,—generally two-storied and *flat roofed* (on account of the violent winds),—have large, lofty, and airy rooms, with naked joists for ceiling (as in some Indian houses), and varnished floors. The absence (in most cases) of chimneys gives a very un-English look to the town; which is hot and dusty in summer, and always disagreeable. There are few gardens; but some houses boast of a terraced walk in front, shaded with firs; and here the family§ lounges in the evening, or during the heat of the day. Hemmed in by mountain, sea, and a wide expanse of dreary sands, the neighbourhood of Cape Town boasts neither of pleasant walks nor fine scenery; nor of a fruitful and profitable country. Very pleasant excursions may be made into the interior; that to Constantia,|| a distance of seven miles, has been one of the most popular. A carriage and pair cost 15s., and a spring cart, or saddle horse, 7s. 6d. a day. Cabs may be hired off the stand in the town at 2s. 6d. an hour. The Cape, though a valuable sanitarium

* The town is badly drained; but the evil effects of this are overcome by the “*doctor*,” or “*Cape scavenger*,” names given to the south east wind, which blows for eight months in the year. Invalids should live away from Cape Town, and move about. Furnished houses and boarding houses abound in *Rondebush* and *Wynberg*,—the former four and the latter eight miles from Cape Town; and “omnibuses run in and out every hour of the day,—charging a shilling the trip. *Wynberg* is the principal residence of visitors from India, * * and may be called the Auburn of the Cape. * * The most picturesque walks wind in every direction over flowery flats, through densest forests, on upland heaths, even to the summit of Table Mountain.” But, though the flora is gorgeous, the trees generally are stunted. *Green Point*, with its glaring heat, and (in summer) dangerous surf, about three miles from Cape Town,—*Camp's Bay*, two miles from Green Point, equally hot, but having a nice “sandy bay fit for bathing,”—and *Kalk Bay*, the principal watering place at the Cape; with *Stellenbosch*, the *Parle*, and the “hot and chalybeate springs of *Caledon*,”—not to omit a shooting excursion, if strong enough, to Cape L'Agullas, or towards the Orange River,—may be mentioned as *adjuncts* to the South African sanitarium; which, under the new furlough regulations, will probably now, with all its flowery attractions, be much less frequented than it has been.

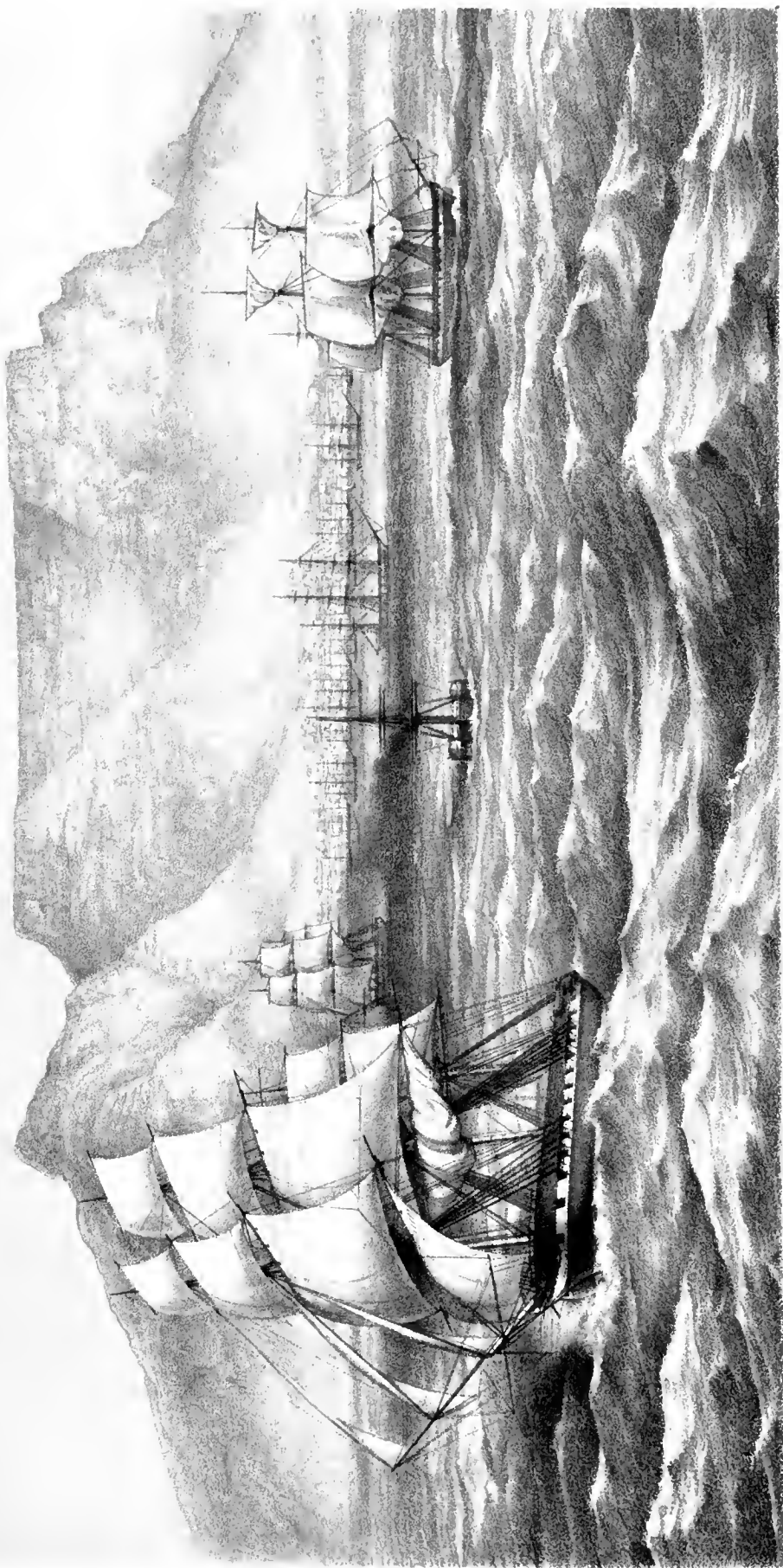
† This is the first land, reckoning from left to right, in the sketch. The centre is Table Mountain, which, composed chiefly of a white granular quartz, has a capping, 1,500 feet thick, of many-coloured sandstone. A species of saurian is the only fossil yet discovered. Whilst the general range of elevation of the mountains is from 1,000 to 4,000 feet, there are some in the interior as high as 7,000; and occasionally capped with snow.

‡ This singular phenomenon is caused by the arrest and condensation into white vapour of the S.E. wind upon the summit of the mountain. About an hour or so before noon, fragments of mist float over the surface, and, towards one o'clock, coalesce into the Table Cloth; which is then said to be completely spread. Soon, the arrested wind makes its escape through sundry gaps, and pours down the mountain with terrific violence and noise, threatening destruction to all vessels which have not shortened sail in time. About five, p.m., the cloth clears and begins to roll up; by nine, p.m., every vestige of it has disappeared; and “twinkling stars and an ethereal sky” proclaim the peaceful termination of the strife.

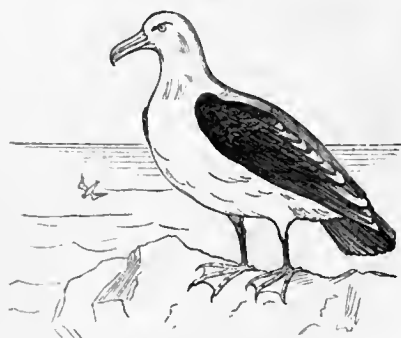
§ “The population, though principally Dutch, is much Anglicized; and English, chiefly, is spoken. The aborigines, the Hottentots, are, in many parts, extinct; or so crossed with other tribes as to have lost their identity. The Mozambique race (emancipated slaves or their descendants), perform most agricultural and domestic labour; while a large and thriving colony of Malay extraction exercise the mechanical arts. Want of hands and labour is the universal complaint; wages are very high, and all articles of colonial produce very expensive.” Beef and mutton, parenthetically, are only 3½d. and 4½d. a lb. And the three principal kinds of fish, the *snook*, the *hottentot*, and the *silver fish*, are all reasonable and good.

|| The soil here is composed of clay and quartz, so favourable to the retention of moisture from the Cape winter rains, well suited for the growth of the vine (though at Madeira the poor vines never drooped for lack of water); about 33 pipes of Constantia, the best of the eight varieties of Cape wine, are made annually; its price is from 24s. to 36s. a dozen. Wine (and next to it wheat and wool), are the chief exports from the colony. 90,000 gallons of Cape Madeira are annually brought into the town; and South African wines, in general, bid fair to have a run in England since the disease of the vines in Madeira.





(the eastern part of the colony and the frontier districts are preferable), is hardly suited for dyspeptic or nervous invalids. The climate is essentially mild and variable. No diseases are peculiar to the place, if we except the *zinkins*, a severe form of *influenza*. The *hottest* months are *January*, *February*, and *March*; and the *coldest*, *June* and *August*. The thermometer averages $89^{\circ} 6'$ (in the shade it is sometimes 98°) in *March*; and 38° in *August*. In the sun it will rise as high as 130° and 140° in the summer. Twice as much rain falls as at Greenwich, and half as much as at St. Helena. It is confined chiefly to the winter months; and the average is 23.05 inches. Changes of wind are very common, in spring and winter.



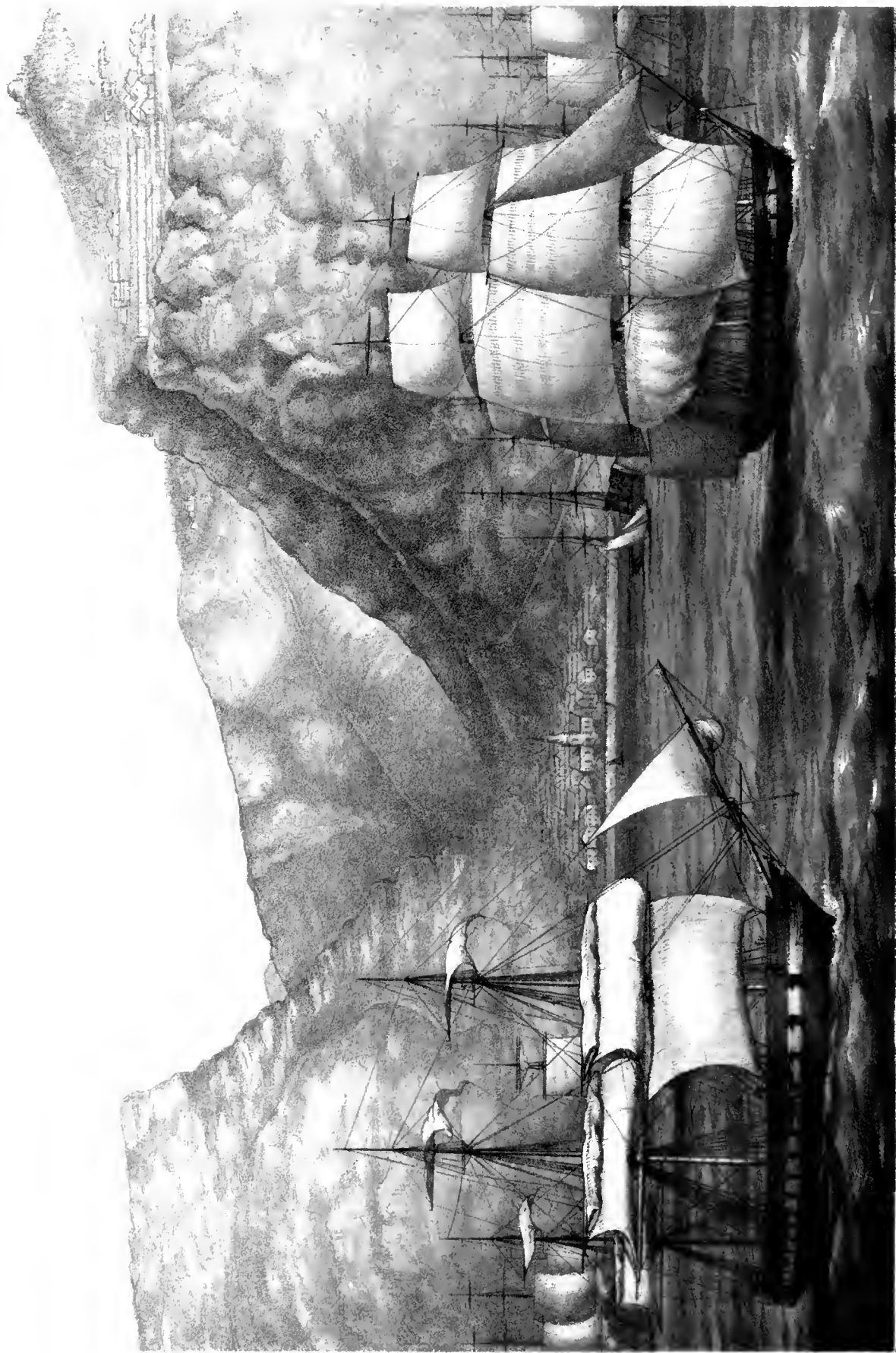
THE ALBATROSS.

The *Albatross*, the most massive of palmated birds, called, also, Cape sheep, by sailors (*Diomedea Exulans*), sometimes, with outspread wings, measures 14 feet in breadth; and weighs 20lbs. It is not a courageous bird, being frequently compelled to abandon its prey, even by gulls. Its voracity is enormous; and it will, often, swallow a fish, weighing 4 or 5lbs. It is a great enemy to flying fish. Vulture like, the albatross, when gorged, is apt to vomit forth a very offensive oily secretion from its stomach. Its eggs are excellent.

The Sea Serpent.—The amazing discovery of the stratified structure of the earth, the layers in some instances reaching to a thickness of ten miles, and the disclosure of fossils in each layer (evidently indicating a pre-Adamite period of life and *death*), had well-nigh revolutionized the thinking world. Science was shaken to her foundations; and the Bible put to its severest test. The press thundered forth its incredulity against the former; and the sceptic found another argument in support of his disbelief in the latter. To reconcile geology and Genesis was the one yearning desire of the “gentle and the good.” Then, the champions of “religion and science united” stood forth; and the writings of Chalmers, Hitchcock, and Pye Smith, like oil upon the troubled waters, calmed the unsettled minds of men; who, now convinced that there was no want of harmony between God’s Word and the revelations of the earth, admitted the new science, and prepared to receive its disclosures, even to the most fabulous extent. So, when Captain McQuhae, of H.M.S. “*Dædalus*,” announced that, on the 6th of August, 1849, in $24^{\circ} 44'$ South Latitude, and $9^{\circ} 22'$ East Longitude (between the Cape and St. Helena), he and his officers had seen the great myth of former voyagers, “moving rapidly along, 10 miles an hour, against a cross sea, and within five points of a stiff breeze,” his statement was received with readiness and respect; and the public at once concluded that the existence of a veritable sea serpent had been proved. In vain did Professor Owen attempt to explain away the apparition. Science was carrying the credulous so far, that they were unwilling to be held back, even by its chief. Stop, said the naturalist; if your serpent is really an animal, he must possess, “by prescriptive right of serpent life, several hundred vertebrae, and he has doubtless had countless father and mother serpent progenitors. Of these many generations the innumerable bones must be studded over the ocean’s bed, and can you not of these give me one little item?” Do this, and I will rightly name your monster, and assign to him his proper place in the animal kingdom. But no, there was nothing to shew; and so, arguing from the *apparent* anatomical data, the Professor advanced the ingenious notion that the so-called serpent was nothing more than an unhappy seal(!), whose island of ice, floating into warmer latitudes, had melted; and which was now swimming for its life,—leaving, as seals by their conformation would do, a long trail in the water, that might very readily, by pre-conceiving eyes, be construed into an actual corporeal length. The man of science talked in vain; and so, failing to exorcise the monster as completely as Faraday had failed to convince the table-turners, he was obliged to lay him “zoologically quiet once again in his ocean depths.” The public would have its sea serpent; and gathered in defence round Captain McQuhae. An able writer in the *Westminster Review* argued, “who shall say that a tribe of animals is extinct? Crocodiles, Elephants, and Hyænas, are fossil and recent. * * Why may not this serpent turn out to be an Enaliosaurian? It is perfectly consistent with the profoundest discoveries of the geologist to imagine

such monsters existing in all their pristine glory." And so, in this unsatisfactory state of hypothesis and discussion, the *vexata questio* remained for ten years; at the end of which period, like some "decennial prodigy," the serpent re-appeared. Not that "he had ever fairly vanished from the scene of controversial life;" but it is only now that he has again "bared his great huge stretching form full to the eager gaze of the nautical." His appearance was announced, early in the year, by Captain Harrington, of the "*Castilian*," very much in the same locality as that in which Captain McQuhae had seen him. Other observers corroborated this statement; and so, it seemed as if a point had been gained, in the monster's favourite *haunt* having been thus clearly indicated. He evidently had a *penchant* for the waters ranging between Tristan da Cunha, the Cape, and St. Helena. Professor Owen was silent; and former sceptics, drawing a wrong inference, perhaps, from this fact, wavered in their unbelief. But alas for the "pristine glory" of the monster! His career, this time, was interrupted, not by the pitiless *phoca* of the antiquary, but by the tangible "open sesame" of Captain Frederick Smith, of the "*Pekin*." Hear him apply his "key to the mystery." "On December the 28th, 1848, being then in latitude 26° S., longitude 6° E., nearly calm, * * I saw, about half a mile on the port beam, a very extraordinary looking thing in the water, of considerable length. With the telescope we could *plainly discern a huge head and neck, covered with a long shaggy-looking kind of mane, which it kept lifting at intervals out of the water.* This was seen by all hands, and declared to be the great sea serpent. I determined on knowing something about it, and accordingly lowered a boat, in which my chief officer and four men went, taking with them a long small line in case it should be required. I watched them very anxiously * * * the monster all the time ducking its head, and shewing its great length." Eventually it was got on board, and then came the *denouement*. "It was so completely covered with snaky-looking barnacles, about 18 inches long, that we had it * * some time before it was discovered to be a piece of *gigantic sea-weed (!)*, 20 feet long, and 3 feet in diameter. * * The root end appeared, when in the water, like the head of the animal, and the motion given by the sea caused it to seem alive. In a few days it dried up to a hollow tube; and, as it had a rather offensive smell, was thrown overboard." *Sic transit gloria serpentis marini!* Captain Smith had cruelly kept his confounding secret for 10 years; for though, indeed, Mr. Herriman, commander of the ship "*Brazilian*," had previously announced that he, too, had seen a sea serpent, which turned out to be "sea-weed going with the current," his statement was not accompanied by those crushing details which tend to establish Captain Smith's positive evidence, not only as the best yet recorded, but as likely to establish a decided identity between the sea serpent and fragments of those "subaqueous forests in the ocean, which emulate, in their gigantic dimensions, the boundless element that enfolds them." For, as Captain Smith very aptly remarks, "Sea-weeds of gigantic growth abound near the islands of the group of Tristan da Cunha. From decay, or other causes, these will, from time to time, become detached at the roots; and, with their living attachments, will then, floating horizontally, *be carried by the well-known currents into the very positions where the sea serpent delights in exhibiting itself.*" Then there is, after all, no such animal, says the reader. Inasmuch as evidence, derived from the sense of touch (and of smell), must carry a weight superior to that of vision (under the circumstances of the observers and observed moving rapidly away from each other, as in the case of the "*Dædalus*"), uncorroborated, too, by the production of any *dissecta membra*, recent or fossil, *probability* is opposed to the existence of any such monster. But *possibility*, arguing for some unknown form of enaliosaurians, admits that "geology offers no impediment to the supposition." Meanwhile the sea-weed carries the day! Will future generations class the stories of the sea serpent of the 19th century with those of the barnacle geese of *our* ancestors? The monster of Norwegian seas is, probably, capable of as satisfactory a solution as that of the South Atlantic ocean.

NOTE.—The Observatory at the Cape, about four miles east of Cape Town, is situated in 33° 56' 3" S.L., and 18° 28' 45" E.L. See "*McCosh's Advice*," &c.; "*Purdy's Sailing Directory*;" "*Dr. Martin's Article in the Indian Annals*," &c.



ST. HELENA.

ST. HELENA.



THE PETREL.

The *Petrel* (*Thalassidroma Pelagica*), our light and buoyant, and never-tiring companion off the Cape,—called *Mother Carey's Chicken*, in memory, probably, of some true or ideal hag, and *Petril* (Petrel is a French corruption from the Italian Peter, referring to the Apostle's walking on the water),—is a little web-footed bird, which has, very unjustly, been looked upon as the sure harbinger of a storm. The truth is, these birds, like every other animal, have their *station*, which sometimes may be, and often is, swept over by a tempest; but, they are seen just as frequently in calm weather; and are, in reality, in their small way,—picking up the garbage of ships,—the scavengers of the deep. Though sailors are beginning to take this view of the Petrel, they are very unwilling to kill it! [Vide *Notes and Queries*, July 17, 1858.]

In latitude $15^{\circ} 15' S.$, and longitude $5^{\circ} 46' W.$,— $10\frac{1}{2}$ miles long by $6\frac{1}{2}$ broad, with an area of 30,300 acres, and a population of 5,000 souls (nearly half of whom are whites),—its rugged and almost perpendicular cliffs, diversified here and there with deep narrow ravines (at the bottom of the broadest of which stands *James Town*,* the capital of the colony),—lying within the limit and in the strength of the S.E. trade,—rises the volcanic island of St. Helena, Napoleon's cheerless prison, and the "home-ward bound" Indiaman's welcome and long looked for haven. St. Helena is the first indication we have, in our homeward voyage, of the approach to England; for, here, the beggars beg for half-pence!†

In its association with one from whom "the whirlwind had stripped the branches, as of a once goodly tree, and whose aspiring head had been blasted by the lightning," the island must ever be a spot full of attractive interest. Expensive though it be, all, who can, should land, and visit *Longwood*,‡ and *Plantation House*;§ ascend Diana's Peak; and linger over the grave|| where, for 19 years,

* *James Town* lies on the N.W. or lee side of the island. The roadstead off the town is an admirable refuge for ships; which, in coming in, "must keep close under the land, by which means their decks are entirely exposed" to Munden's Battery. This, in addition to "eddy winds, calms, and violent gusts, which lay ships almost on their broadsides," constitutes the *natural strength* of St. Helena. The anchoring ground, extending to $1\frac{1}{2}$ miles westward from the shore, gives soundings of from 7 to 35 fathoms, "when it suddenly deepens to 60 fathoms," after which there are no soundings at all. "Although the anchorage is well sheltered and easy of access, the surf is at times (mostly in January and February), so high that no boat can land for several days together. More will be said on this head in the chapter on *Ascension*."

In looking towards *James Town* from the deck of a ship (as in the sketch), we observe a valley between two prominent mountains. That on the left hand, or eastern side, is terminated by *Munden Point*; whilst the steep perpendicular hill on the opposite side is called *Ladder Hill* (about 800 feet high), and on the summit of which stands the *Observatory*.

The *Alarm House* (often erroneously thought to be *Longwood*), 1,960 feet high, is seen in the distant back ground amongst the firs. The hulls of dismantled slavers may often be seen anchored in the roadstead. Up to 1800, slavery was rife in the island itself; but none were imported after that date; and in 1832 the E.I. Company began to emancipate them. Each slave—paying an average price of £40—was to work out his own freedom; and 1837 was to find the emancipation effected. All children born after Christmas day, 1818, were declared to be free at once.

† All the coins of the world are current in St. Helena,—from the Spanish doubloon, and Bengal gold mohur, to an English brass farthing and a Dutch guilder! Sovereigns, being in such demand for homeward-bound ships, generally command a premium.

‡ Utilitarian England, on the Emperor's death, immediately let his abode for farming purposes, to which it is yet devoted. An avenue of gum trees, with their thick tallowy leaves and umbrella-shaped tops, leads to the spot; a short distance from which is situated the new house (made of English materials, with broad galleries and lofty rooms), built expressly for Napoleon; but which he never lived to occupy. It is tenanted by a Mr. Moss.

§ The residence of the Governor. From the days of Dutton, in 1657, to those of General Dallas, who reigned 6 years, St. Helena has been ruled by 43 governors (including the acting ones). The island is said to have been discovered, in 1502, by a Portuguese; but the Dutch first settled on it, about the middle of the 16th century. In 1673 it was taken from them by Captain Munden, and soon afterwards given to the E.I. Company by Charles the 2nd. This now extinct liberal corporation made several efforts to add to the resources of the island. One of their acts was to expend £20,000 in the endeavour to introduce the silk worm; but, so indifferently did it succeed, that the profit amounted to no more than £300 upon the whole!!

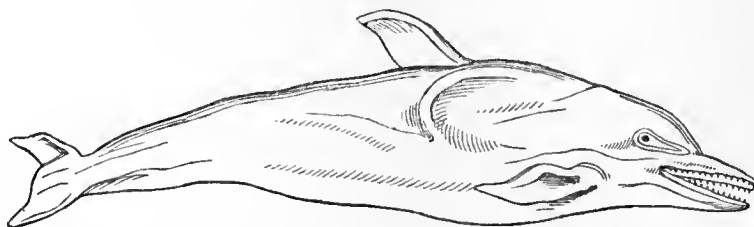
|| The old soldier who, until lately, kept the book of visitors to the spot, declared that the behaviour of the *French* visitors made him a Christian! The sacred atmosphere which they felt on approaching the grave gave rise to the deepest reverence, and most energetic weeping; and some of the earth was always carefully packed up and taken away. Though the two willows, beneath the shade of which (surrounded by geraniums, lilies, and roses, and enclosed by an iron railing), the Emperor's grave was made, have long been decaying, yet handsome cypresses have grown up, and enhance the gloomy interest of the scene. An excellent spring of water, flowing amidst the bright verdure of the bank, is close at hand; and here Napoleon loved to retire, and contemplate, down the vista of rocks,—partly screened by the green and waving boughs,—the sea which bound him to his island prison.

reposed the ashes of the self-styled prototype of Themistocles. Under the liberal rule of the E.I. Company, the administration of which was conducted by a governor and council, St. Helena was a palmy retreat for its high-salaried servants.* Those halcyon days, however, terminated in 1834, when the island was transferred to the Crown. St. Helena has been termed a second Gibraltar. "Excellent water"† and an insular position (approachable only at a disadvantage in war time), combine in constituting St. Helena as impregnable as a fortress, as it is useful as an harbour.

Its supplies, however, must come from without; as the indigenous‡ products are not sufficient, to meet any heavy and continued demands.

NOTE.—*Argemone Mexicana*,—a plant which, covered with prickles, abounds in a milky gelatinous juice, which turns in air to a fine yellow, like gamboge, and bears a fig-like fruit,—is the commonest weed in the island, and is often mistaken for a *cactus*! It is used, by Spaniards, in ophthalmia.

ASCENSION.



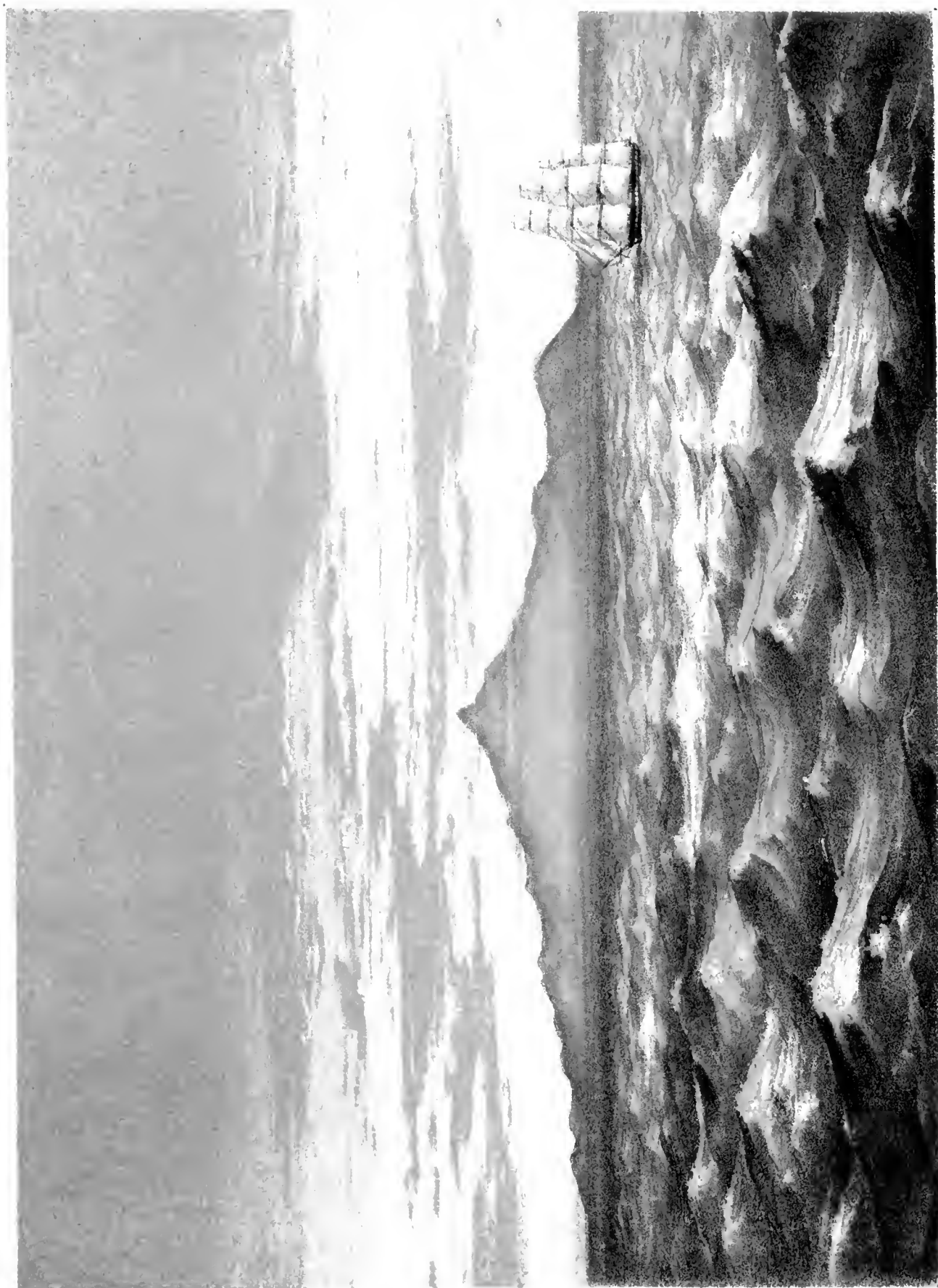
DOLPHIN.

This elliptical volcanic island, 22 miles in circumference, and situated in $7^{\circ} 55' 22''$ S.L., and $14^{\circ} 20'$ W.L.,—originally taken possession of for a military station, during the confinement of Napoleon at St. Helena,—was, subsequently, retained as a suitable rendezvous and dépôt for the West African squadron; and, accordingly, garrisoned by a detachment from the Royal Marine Corps. *Georgetown*, the improving capital of the island, and boasting of an admirable jetty, or pier (terminated by a rock), which forms the landing place, lies on the lee side; along a portion of which, extending from the S. point of S.W. Bay, as far as English Bay, is an excellent anchorage, in from 10 to 12 fathoms, sufficient for 300 sail at once. The contiguous rocks and reefs are indicated by buoys. *Green Mountain*, nearly in the centre of the island, and the highest point of it, rises as a "graceful oasis," out of an entire field, as it were, of lava. From its summit may be seen between 30 and 40 craters of extinguished volcanoes, projecting in awful and desolate grandeur in all directions over the island. All is rugged, cheerless, and barren, save *Green Mountain* itself, which,—2,818 feet high,—covered with indigenous rock roses, ferns, and mosses,—and having a temperature

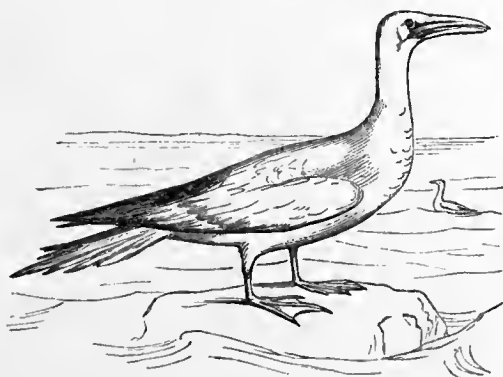
* In former days a governor received £1,800 a year, besides table expences, servants, and horses. The Company consolidated these allowances, eventually, to an annual income of £5,000, which was to include table allowance; but still, coals, candles, and forage for 16 horses, with a number of gardeners, were provided besides. A Lieut.-Colonel received £700, a Captain £450, a Lieutenant £300, and an Ensign £250, a year. The military establishment at that time (and it is very much the same now), consisted of some 400 Infantry, and 300 Artillery, who were dressed like the royal troops; besides a small force of Island Militia, dressed in green jackets; some 1,200 men in all.

† St. Helena is invaluable to "homeward-bound" Indianmen, as being *always accessible*, even in seasons when the Cape is not. Beautiful water is conveyed in leaden pipes down to the shore, whence it is transported in boats to the ships. Some twelve years ago a good deal of sickness prevailed in two or three "homeward-bound" vessels off the island; and it was alleged that this arose from the water with which they had been supplied. The "*Times*" published a letter on the subject, highly condemnatory of Mr. Solomons, to whom the pipes belonged; and who, it was urged, had neglected to have them properly cleaned. The *Thunderer*, however, was declared by a jury to have been misinformed; for, Mr. Solomons recovered £500 damages from the editor in an action for libel! The libel had been got up, I heard, from party motives, to withdraw ships, from St. Helena, elsewhere.

‡ Beef, veal, and pork are exceedingly dear, being often 10d. or 1s. a lb. With such an abundance of bullocks on the opposite west coast of Africa, it is remarkable that no bullock transport company has ever been formed, to buy (they may be got for 6d. a piece!), and convey beeves to St. Helena, where the pasture is, on the high lands particularly, excellent and plentiful. A contrary wind, and currents, would act as *impedimenta* in the outward passage; but powerful steamers would overcome such difficulties. The soil is well suited for good gardens. Yams, cabbages, peas, and beans, are generally plentiful; but the potatoe is the chief agricultural produce. "In favourable seasons 6,000 bushels are sold annually, at 8s. a bushel. * * There are *three* crops annually; but the joint produce of the whole is not equal to *one* in England!" The grain crops can't be depended upon; and it is cheaper to import corn.



20° cooler than that of the town below, whence an invalid can be transported up in two hours, the distance being only 7 miles,—with a soil consisting of the rich *débris* of various decomposing lavas,—is the site of the principal cultivation in Ascension. The lofty ridge of *Green Mountain* is, moreover, useful in arresting and condensing the watery vapours that would, otherwise, pass over it. A valuable stream of water is, thence, conducted through iron pipes into the town; which is, likewise, provided with a further supply from *Dampier's Springs*,—named after the celebrated navigator, who, when wrecked near Ascension, in 1701, discovered them by watching a flock of goats. Ascension is chiefly remarkable for the *rollers*, which sometimes sweep away thousands of tons of sand from the beach into deep water; and for its *turtle*. The former are thus accounted for:—when the sun is in the northern hemisphere, strong gales are apt to prevail in the South Atlantic, in the neighbourhood of *Cape Horn*, without the limits of the *S.E. trade*. The long heavy swell which follows, rolls towards the N.E. against this wind, and “meeting with shoal water, and the uneven rocky bottom of the reef” (the first land impediment yet encountered), “breaks high and with violence” over the beach. It is probable that this is the true explanation of the cause of these tremendous rollers. Unluckily for the correctness of the theory which ascribed the rollers of 1846, at St. Helena, to a short suspension of the *S.E. trade*, and the re-flow of the pent up waters from the equator, the very same phenomenon took place at Ascension six hours *after*, whereas, according to the theory, it should have done so six hours *before* its occurrence at St. Helena. I am indebted for a knowledge of this fact to Captain Smith, of the “*Roxburgh Castle*,” and it certainly rather favours the Cape Horn “gale and swell” theory, than the other. The *turtle*, *testudo mydas* (called also green turtle from its fat, the colour being probably derived from the *green fuci* on which the animal feeds), is the staple commodity of Ascension. Between December and June (after that it is too cold), and chiefly on moonlight nights, fine full-grown females (*young turtle* never come, nor any under-sized), weighing from 600lbs. to 800lbs. (though their *flesh*,—resembling young beef, or veal, and capital in pies and steaks,—often amounts to no more than 150lbs.), may be seen scooping large holes in the sand with their flippers, for the reception of the 70 or 80 eggs, which they lay there,—wonderful fecundity(!),—sometimes *thrice in a season*! In a few weeks the young break through their shells, and the sand with which their mothers have covered the holes. Lucky for them if the birth occurs at night; for, then, they can escape readily to sea. But, if in daylight, down pounces the ever watchful *Frigate Bird*, and commits sad havoc amongst the young brood. Twenty years ago, Government fixed the price of turtle at 50s. each; from which may be calculated the cost of a *basin of real turtle soup* in London. Though so near the equator, Ascension is always cool and pleasant, at least to a *Bengalee*, owing to the *S.E. trade*. The thermometer averages, in the low lands 83°,—and in the high 70°,—throughout the year. The climate is healthy; there is no lack of good fresh water; excellent fish abound; a variety of vegetable products now flourish; horses, cows, sheep, &c., are stocked and sold (though at extravagant rates), to ships requiring them; so that Ascension,—considering, too, its inaccessibility, like St. Helena, except on one side,—may be regarded as a valuable British possession. It will not, obviously, stand much pressure; and, hence, colonists are not allowed to be too numerous; nor are supplies, either of water or anything else, granted to *merchantmen*, except they be in *urgent need* of them.



THE BOOBY.

The *Booby* (*Sula*)—thus named on account of its stupidity in suffering other birds, especially the *Frigate*, to strike its prey out of its mouth—has webbed feet; and so, from its inability to grasp, is soon entangled amongst the shrouds of a ship (against which it often flies), and readily caught by the sailors, who think it a still greater booby on this account.



THE FRIGATE BIRD.

The Frigate (*Trachypetes*), or Man-of-war bird, may be called the palmated falcon of the ocean. "Their wings are so powerful that they fly to immense distances everywhere, but principally between the tropics, pouncing on the flying fish," and compelling the boobies to give up their food.

The gulf weed, so constantly encountered by homeward bound ships (which are often a week in sailing through it), occupies a tract* of the North Atlantic Ocean, some 1,200 miles in length, with a breadth varying from 50 to 150, and comprised between the parallels of 18° and 37° N., and the meridians of 33° and 43° W. This vast space was called the *Sargasso*, or *Sargosso Sea*, by the early Portuguese navigators, from the form of the air vesicles (mis-named seed-vessels), of the gulf-weed, which floats in it. This sea is looked upon as a kind of eddy, being situated between two important currents, and as being the recipient of the great Gulf Stream.

"There is a river in the ocean. In the severest drought it never fails; and in the mightiest floods it never overflows. Its banks and its bottom are of cold water, while its current is of warm. The Gulf of Mexico is its fountain, and its mouth is in the Atlantic Seas. It is the Gulf Stream."† Originating from the "superior level of the waters of the Colombian and Mexican Seas, and, like an immense river, wending its course eastward between Cuba and Florida; northward between Florida and the Bahamas, occupying nearly the whole breadth of the channel; and, thence, setting nearly parallel to the American coast, in a N.N.E., N.E., and easterly direction, finally diminishing in impetus, and falling southward on the meridians to the west of the Azores, is eventually lost in the *Sargosso*, or *Weedy Sea*," above described. Its ordinary length "may be estimated at more than 3,000 miles from the Mexican Sea;" but, occasionally overflowing, "its waters have, at times, extended eastward beyond the Azores, and even to the coast of Portugal and Bay of Biscay." Its breadth, in its narrowest part, is "in the Strait of Florida, between the point named *Cape Florida* on the west, and the great *Bank of Bahama* on the east, a distance of 35 or 36 miles; * * off Cape Hatteras, about 700 miles more to the northward, its breadth is computed as generally about 75 miles; but, it soon afterwards expands to an indefinite extent northward and eastward; extending, in the meridians of 60°, even to 350 miles. This singular stream is accompanied by certain counter-currents and eddies; but, the most remarkable of all is one, which is now supposed to be a sluggish prolongation of the Arctic current, constituting a cold in-shore flow, and running nearly parallel with the warmer Gulf Stream, though in a contrary direction; both preserving the same relative positions even to the "utmost depths reached by the sounding apparatus, to the points where there seems to be a tendency to a common and low temperature of the deep water of the ocean." Off Cape Hatteras, it is probable that the "cold in-shore wall is cut off, the hot water of the Gulf Stream extending quite into soundings." The velocity of the Gulf Stream is presumed to range from 1½ to 3½ miles an hour;

* The weed does not appear to have varied its position, "in any great degree," during the last 50 years; and it, probably, has been stationary for ages; ever since the days of Columbus, "who first noticed it." The *Fucus* is met with, also, in detached and small bunches, in localities bordering upon, and even distant from, its normal abode,—having been probably drifted by currents and winds. It has been seen as low as 6° N. The theory that the gulf-weed grows on the rocks in the Gulf of Florida, whence it is up-rooted, and then carried into the Atlantic by the Gulf Stream, is not supported by any facts. The probability is, that it grows on fathomless rocks immediately beneath the surface where it is found; and that fragments, becoming detached, float upwards by the buoyancy of the air vesicles. These, together with many of the stems, are coated with a thin net-work (*Austra*) of a coralline appearance, which effervesces in acids. A section of the berry-like air vesicles presents a beautiful cellular arrangement under the microscope. Groups of little barnacles, whose elegant *cirri* never seems to tire; nimble little crabs, with two oar-like claws (figure 7, plate 18) (which hurriedly take to the water,—and so are distinguished from ordinary land crabs,—on attempting to catch them with the weed); with pipe fishes (*syngnathus*) (figure 11, plate 18), and sometimes toad fishes (*Antennarias*) are, besides various crustaceans, the chief forms of animal life found on the gulf weed.

† See "Mauzy's Physical Geography of the Sea."

though it has been encountered, as flowing at even a greater speed, by some vessels. The *average* velocity, in its greatest strength, exceeds 40 miles a day. *Its temperature and density* are, by no means, two of the least noticeable facts connected with this ocean-river. *Its course* may actually be traced by a thermometer, which invariably indicates a greater heat than in the water on either side of it. And the *density* is thus, in part, accounted for. "In the trade-wind regions, at sea, evaporation is * * in excess of precipitation, * * and these are the regions in which the Gulf Stream enters the Atlantic." The salts, so left behind, enter the Caribbean Sea; and the Gulf Stream thence carries them into the Baltic and North Sea, where, owing to precipitation being in excess of evaporation, they are deficient. Marvellous economy of the ocean. "O God, how manifold are thy works. In wisdom hast thou made them all!" The dampness of the climate of England is, partly, attributable to the warm and soaking waters of the Gulf Stream; which, carrying "the temperature of summer, even in the dead of winter, as far north as the Grand Banks of Newfoundland, * * has probably much to do with the storms that rage, with such fury, on the left side of the stream." It has been called the "Storm King of the Atlantic."

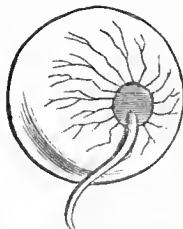
Cause of the Gulf Stream. Whilst very justly ridiculing the idea of the rise and fall of the floods in the Mississippi as having anything to do with it (for,—on one occasion when this river was uncommonly low,—the Gulf Stream happened to be running with unusual velocity!), Captain Livingstone, more reasonably, attributes it to the fact of the trade winds raising the level of the Gulf of Mexico.

The *value of the Gulf Stream* is appreciated by every navigator between America and Europe. By taking advantage of, and keeping *in*, it, when going eastward, the voyage is materially shortened; by *avoiding* it, when coming westward, it is "inconceivably facilitated." The following fact will illustrate this. In the summer of 1798, a mail packet, bound for Charlestown, was 25 days in getting there. The captain accounted for the delay by saying that he had nothing but calms, or very light airs, with a northerly current. He was right. The fact is, that he was "in the *middle* of the stream, where there are calms or light winds; the edges, only, which come in contact with colder regions, being tempestuous." "On the return voyage, the captain steered the same course back, and, with the same light airs, performed the voyage in 7 days,"—or in one-fourth of the time occupied in going!

NOTE.—The effects of some currents upon ships is very remarkable. In 1822, the "*Pheasant*" (in her voyage from Sierra Leone to New York, a passage of 9,000 miles), was indebted to their aid for 1,600 geographical miles of the distance! A "ship hecalmed, with her sails furled for 48 hours, was, in that time, carried by Rennell's current 46 miles to the northward;" and vessels are continually *set*, by the same stream, towards the rocks of Scilly. The easterly current, which flows round Cape Ortegal and the land of Finisterre would, were it not that "the latter is discernible at a great distance, and has an offing clear of rocks and shallows, besides being situated in a finer climate," lead to the destruction of many a vessel. Bottle experiments are always valuable in *the long run*, and should be encouraged in every ship.

Lieutenant Walsh, of the U.S. brig Taney, when employed in the hydrographic department of the United States' Coast Survey, speaking of *under-currents*, writes, "it was wonderful, indeed, to see this barrega, or float, move off against wind, and sea, and surface currents, at the rate of over 1 knot an hour, as was generally the case, and on one occasion as much as $1\frac{3}{4}$ knots. The men in the boat could not repress exclamations of surprise, for it really appeared as if some monster of the deep had hold of the weight below, and was walking off with it." The surface current, at a depth of 80 fathoms, was moving at the rate of one-third of a knot an hour, and setting W. The under-current, tested at a depth of 126 fathoms, had a W.S.S. set. Further experiments led to similar results. Currents sometimes produce a long line of *breakers* in their course; startling the uninitiated with visions of rocks and a wreck, which are dissipated, only, when the ship has fairly sailed through the advancing waters.

SPARKS OF LIGHT AND GRAINS OF SCIENCE.



THE NOCTILUCA
MILIARIS.

Amongst the countless wonders which have been revealed to us in the voyage to India, none have, probably, riveted our attention more than the luminosity of the sea. Revolving hurricanes, bursting water-spouts, towering icebergs, resplendent meteors, and new constellations, in the physical,—with showers of flying fish, stately albatrosses, voracious cephalopods, violet snails, Portuguese men-of-war, and sea serpents (!) in the animal,—world, may each have excited our curiosity and admiration. But, how are our conceptions of mysterious Omnipotence raised, when we contemplate the humble, mushroom-like, medusa! View it moving about by a progressive series of alternate contractions and expansions; destitute of blood vessels, muscles, nerves, or glands; covered with a blistering secretion which feeds the microscopic myriads of the deep; the “apathetic murderer of the strongest and most active races;” an undulating globe of phosphorescent brightness; weighing, it may be, several pounds; and yet, on the draining away of its contained sea water, (and there is nothing else), becoming a lifeless and disorganized cobweb! “Be still, and know that I am God.”

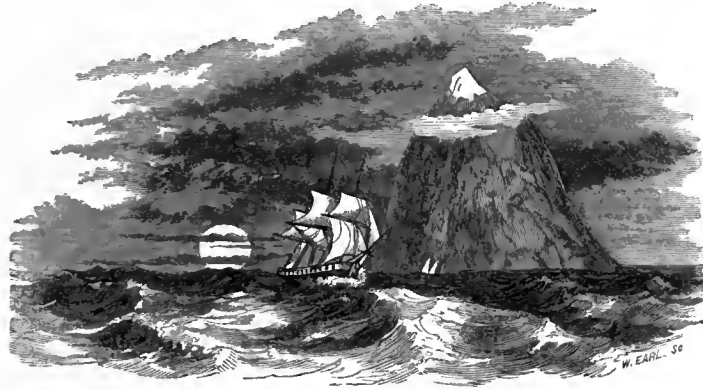
A variety of animals give rise to the luminous appearance of the sea,—a phenomenon which, though the brilliance of it is intensified in tropical climes, is not confined to any ocean; and is, as every one knows, often to be seen on our own shores. *There*, it is chiefly produced by the restless little *noctiluca miliaris*,—a transparent, pulsating, globe, 1-1000th of an inch only (!) in diameter, and filled with numerous branching vessels, which shoot forth the luminous property like “twinkling stars.” The *salpæ* (singular creatures whose individuality is restored in every alternate generation,—the intermediate races being irrevocably connected together by a “Siamese twin-like” bond of union), are another family, which give rise to *ribands*, whilst the medusæ produce *globes*, of phosphorescent light. There are many others; and, “as the night reveals the stars of heaven, so does the darkness * * these living luminaries,” which, scattered broad-cast over the waters, and intermingled with the “ocean milky way,” “mark the pathway of the stately vessel ploughing up from fathoms deep her radiant furrow,” and tell us, in glowing language, of the magnificent “grandeur, and the unimaginable immensity of the creation of God.”

On the African side of the Atlantic, and especially in the neighbourhood of the Cape Verd Archipelago, a fine reddish dust, producing an impenetrable haze, which, occasionally, amounts to a dangerous fog, is deposited on the spars and rigging of ships. Although this dust invariably prevails with a N.E., E., or S.E., wind, and at seasons when the Harmattan is blowing, it has been concluded that it comes from Africa, near the continent of which it is so systematically deposited; more particularly, too, as the *coarser grains fall first*. But, the microscope reveals, in this dust, certain forms of infusorial life, which, amongst others from Africa, *are peculiar to South America!*

Lieutenant Maury imagines, that these are blown up into the air with the whirlwinds which prevail about the beds of the Amazon and Orinoco rivers, carried over the equator, northwards, by upper-currents of air; and, eventually, brought back by the N.E. trade, and deposited on the surface over which it flows. An ingenious solution; and, if true, supplies a singular “tally on the winds,” whose course the microscope thus, so beautifully, reveals to us.

NOTE.—The *milky* appearance of the sea is, likewise, caused by animal life. It has been estimated that, at some seasons of the year, certain phosphorescent *acalephs* cover the surface, in the proportion of thirty or forty thousand to every cubic foot! All these luminous creatures evolve a bright light when touched; a gentle breeze, with its attendant ripple, is often enough; and, all are familiar with the sparkling gems, which the stroke of an oar will, sometimes, unveil. It has been, incorrectly, supposed that a species of *medusa* yielded the Tyrian purple. *That* was produced from a *murex* (the shell of which is well known), one of the mollusca, and common to the Mediterranean.

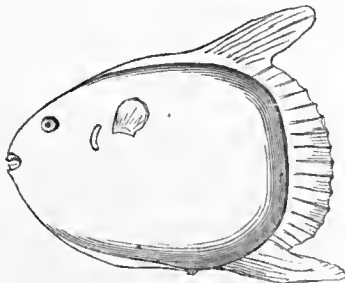
AZORES, OR WESTERN ISLANDS.



PICO.

Of these volcanic islands, St. Mary's, St. Michael's, Terceira, St. George's, Graciosa, Fayal, Pico, Flores, and Corvo, remarkable, chiefly, for sub-marine volcanoes, and a variety of other volcanic phenomena,—for the well-known oranges of one of the group,—for the medusæ, which are brought, thousands of miles, from the Gulf of Mexico, to feed the whales, by the Gulf Stream (which, from its high temperature, the whales will not cross),—and for heavy gales of wind,—one, at least, is generally sighted by Indiamen on the passage home.

Pico, so called from the volcanic sugar-loaf, (snow-capped), peak,—nearly 7,000 feet high,—which stands upon it, boasts of 22,000 inhabitants, who live in three towns and eleven villages, and make the best wine in the Azores.



SUN FISH.

The sun fish (*Orthogoriscus Mola*), so called from its bright skin and round shape, though known sometimes to "lie, and perhaps to sleep, with the head out of water," is yet very fond of the bottom, and keeps close to the sea weeds, on which it feeds. One has been taken, off our own coast, four feet in length, and weighing 400lbs. Its movements are sideways.

NOTE.—*Azores* was a term applied to these islands by their Portuguese owners, in consequence of the numerous hawks and falcons found upon them.

APPENDIX.

The cut at top of page 9 represents an iceberg seen south of the Cape, from the "Thomas Grenville," outward bound, on the 17th December, 1840, and supposed to be 200 feet high. The sketch was taken by a Lady, who did not record the latitude.

DESCRIPTION OF PLATE 18.

The *calamary* (fig. 1), or *squid*,—a very active and voracious cephalopod,—is remarkable for the chameleon-like property of changing colour. This is due to the alternate contraction and expansion of a "certain complicated system of globules * * red, brown, and yellow, placed under the first layer of the epidermis." This property had been supposed to reside in *live* calamaries only; but, Mr. Lewes (in his recent delightful volume of *Sea-side Studies*), states, that he has *seen* it developed in a *dead* one.

The *cuttle fish* (fig. 3),—the food of the sperm whale,—is a fair type of the voracious family of cephalopods (from *κεφαλη* head, and *πους* a foot, the so called feet being congregated around the head), which,—essentially aquatic in their habits,—possess large eyes, parrot like jaws, a superior nervous system, salivary glands, several stomachs, and a voluminous liver. Armed with powerful suckers at the extremities of their arms (one species,—the poulp,—has 120 pairs on each of its eight arms, which are six times the length of the body), their powers of prehension are perfectly irresistible. The largest crustacea become the cephalopod's prey.

Like leeches, these fasten on their shell-cased victims (whose attempts to escape are utterly useless), and coolly proceed to the work of destruction with their beak-like jaws. In some seas cephalopods attain an enormous size, and are objects of terror, even to man. The cuttle fish, as is well known, produces the sepia of commerce; and the *pounce*, fig. 2, which,—formerly used in medicine as an astringent, and now in the arts as a cleansing absorbent,—serves as a kind of skeleton about which the mantle of the cuttle fish is folded.

Barnacles (fig. 4), are, essentially, crustacean; and pass through a series of metamorphoses before arriving at maturity. A pair of *cirri* spring from each of the six segments of the body, fringed at their extremities with *cilia*, or hair-like threads. Attached by the peduncle (which was once an antenna), to a ship's keel, to floating timber, or to a root of sea weed—sea serpent? the barnacle gives a vibrating motion to these ciliated organs, and “produces currents in the water which serve to bring the prey within its reach, and a fresh supply of fluid for the aëration of the blood.” Barnacles are, mostly, hermaphrodite, with, sometimes, a wretched “complementary male,” leading an inglorious parasitic life on the surface. Even where the sexes are separate, this is the character of the male; clearly the “worse half” of the two. Barnacles are common to all seas, and exceedingly numerous. Old ships are often much impeded in their course, owing to the numbers attached to the keel. The *barnacle-geese*,—gravely described by the older philosophers as originating from these creatures,—is familiar to all.

Fig. 7 represents the *violet snail*, which floats, in large numbers, in the Indian Ocean; and is remarkable for the raft,—to which the creature's eggs are attached,—corresponding, apparently, to the operculum, or lid, in land snails.

The *salleeman*, or *velella scaphoidea* (fig. 8). This delicate little ship in miniature, which sails along (“braced sharp up” on a wind), in company with the great blundering, but elegantly coloured, “*Portuguese man-of-war*,” occupies a very low place in the scale of animal life. And, yet, it is one of those interesting instances of “progressive development” by which nature ordinarily marks her upward course. The *velella* is a little *acaleph* (one of the *hydrozoa*), as are the *berœ*, the *cydippe*, and the *cestum veneris*, or *Venus's girdle*; but, whilst these are furnished with oars only (in the shape of ciliary appendages), to propel themselves along, the *salleeman* dispenses with such instruments; and hoists, instead, a sail. In the soft disc, which forms the body of the animal, is imbedded a light, porous, cartilaginous plate, filled with air, which acts as a float. The sail is a delicate crest of a *sub-cartilaginous* character, very thin and light throughout, except in the centre, where it is somewhat more substantial, and this serves for a mast! How about ballast? From the disc hang certain tentacular appendages, like a fringe, which can seize upon small stones and shells, and, so, give stability to the little vessel. Can the *salleeman* ever furl its sail? No! it is always set; but, in some species, “fine contractile bands are interwoven with the spreading sail,” which enable it to *take in a reef* (!) if necessary. *Salleeman* is, apparently, a corruption of “sailor-man,” a term doubtless derived from the navigating habits of the animal. Its chief enemy is the *violet snail*; and, probably, it is from this delicate food that the latter acquires its peculiar blue secretion, and colour.

The *Portuguese man-of-war*, or *physalus pelagica*, (fig. 12), is also an *acaleph* (a general term derived from *ακαλήφη*—a nettle, as nearly all this class of animals have more or less stinging properties), in the class *hydrozoa*, which corresponds with the *hydroid polypes* of Cuvier. The body of the man-of-war is the large pear-shaped bladder (surmounted by a splendid, purple coloured, crest of firmer consistence), which floats, filled with air, upon the surface of the sea. At either extremity of this bladder is an orifice, duly supplied with a muscle, which, by contracting, drives out the air, and so enables the animal to sink; which it does, with great rapidity, on the approach of rough weather. Beneath the air-sac (which is, sometimes, six inches long), is a mass of short flask-shaped stinging appendages (these float down occasionally to a length of 16 or 18 feet!), terminated by suckers, with an orifice in each. The suckers are retractile, and, so, can draw the prey upwards. Some of the tentacular appendages appear intended to bear the eggs, whilst others are “formed for sucking nutriment.” Digestion, in *acalephs*, is a very simple process. There is a sort of apology for a stomach, an excavation in the central mass, into which food is brought by the stinging tentacles, and, there, dissolved. When the *Portuguese man-of-war* wishes to rise to the surface, it fills its bladder with air, which it forms, it is supposed, in the same way that fishes do the air for their air bladder; viz., secretes it from its own person.

Fig. 9 represents the *true*, and fig. 11 the *paper*, nautilus (or argonaut), which have been occasionally confounded by sailors with the *salleeman* and *Portuguese man-of-war*; and with each other.

The *Argonaut* has been represented in the sketch, as in full sail; and, so, verifying the poetic notion of Pope,

“Learn of the little nautilus to sail,
Spread the thin oar, and catch the driving gale.”

It is not very certain, however, that the *Argonaut* does so use these appendages, which, Professor Owen considers, from the nature of their structure, to be unsuited for such a purpose. There is, however, a passage in the *brochure* of M^{me}. Power, (that lady confined argonauts in cages in the Bay of Messina, and daily watched their movements,) which, certainly, favours the idea,—“Il nage avec tout son corps et ses huit bras dans sa coquille, des bras en dehors, ou les membranes étendues dessus, avec l'extrémité de ses membranes appliquée à droite et à gauche pour s'en servir comme de petites voiles, étant à la surface de l'eau; les six autres sont allongés en dehors de la grande ouverture,” &c., &c. Still, Mr. Owen would require other testimony than the evidence afforded by this passage, before believing in the actual sailing of the argonaut. M^{me}. Power's experiments were, more particularly, valuable, as they demonstrated the position and use of the membranous arms of the argonaut. She has shewn that these *form the shell*, repair it, and maintain it in connection with the body, for, there is no muscular attachment, as in the *true nautilus*. Like all cephalopods, the argonaut is extremely voracious; and their kind mistress frequently had her fingers bitten when distributing the daily food of her ocean pets!

Fig. 14 (*limacina*), fig. 15 (*cleodora*), fig. 10 (*elio*), and fig. 16 (*hyalœa*, (syn. *glass shell*), constitute, with cuttle fish, the principal food of the whale.

Fig. 17 represents the *carinaria*, an elegant animal, upon which the argonaut was supposed, (till vindicated from the calumny by Madame Power), to be dependent for its shell. It swims upside down, the globe on the surface being its foot, and the fringed disc below, its gills.

CABIN FURNITURE AND WARDROBE.

CABIN FLOOR.—A flooring of *oilecloth*, as being more easily kept clean than the bare boards,—with a *carpet*, or *coir rug*, for the side of the couch,—is far better than ordinary mats and carpets, which are apt to retain wet, and spoil. A small *hand broom*, and a *dustpan*, are very desirable. One of the sailors, or cuddy servants (y^clept idlers!), or a soldier, will always be found willing to “do” for a passenger for the voyage.

ROOF.—Hooks must be screwed into the roof, for the suspension of the *swinging tray* and *lamp* (the Italian lamp is the best); and for a *carpet*, or *canvas*, bag (better than a cane basket), in which to stow away the dirty clothes.

WALLS.—A small *looking glass*, a *bookshelf*, a brown Holland or American drill *shaving case*, one or two *leather straps*, studded with brass hooks and pegs,—with a few pictures of “dear home and kindred,”—and a light blind in front of the Venetians, to ensure privacy,—and the walls are fitted up.

A *couch*, with its capacious drawers, not only saves the necessity for a chest of drawers, or of several boxes, in the cabin; but, also, that of having to get things up so frequently from the hold,—a luxury appreciated, as well by the passenger himself, after one or two experiences, as by the unfortunate officer who looks upon “baggage day” with the same aversion that returning school boys do upon “black Monday.” It may, moreover, be converted into a very decent sofa on shore. There is, I believe, after all, no kind of *mattress* better than one stuffed with *horsehair*; but, it is expensive. *Ritchie's patent granulated cork mattresses* (to be procured at 66, Watfield Street, Blackfriars), as opposed to the comfort of vermin, and being non-conductors of heat, are admirable substitutes. So are the *cocoa nut fibre mattresses*, made at Treloar's (42, Ludgate Hill.) These are very durable, light, cool, and, likewise, obnoxious to vermin; but they should be well stuffed. The objection to the coir is its excessive dryness, and consequent tendency to become dusty. Two or three good *English blankets*, with a *counterpane*, and *three or four feather, or coir, pillows*, will be useful in India; and off the Cape. *Iron bedsteads*, with a sheet of canvas stretched across for a bedding, are advocated by some; but, they are apt to get rusty, particularly at the joints, at sea. It is better (with a view to avoid not only sea-sickness, but also the see-saw of now the head, and then the heels, up in the air, on every alternate rolling of the vessel), to fix the couch “fore and aft,” and not athwart ships. It is very desirable to have a *swing cot*, besides a couch, for rough weather. Many take, *only*, a cot; and, where economy must be closely studied, it really may be quite enough. In that case, one or two more boxes must be brought into the cabin; but, as cushions and chintz covers will convert these into so many additional seats, which may be so arranged as to form a couch for the day, a point is, perhaps, rather gained than lost. One good strong cane-bottomed chair (not a folding one, which, with every plausible show about it, is, too often, of ephemeral stability), and an easy *Derby chair*,—with a *table washing-stand* (from Benetfink and Jones's, in Cheapside, comprising, as there made, the advantage of having *foot-tub, can, and other essentials*, stowed away in one and the same cleverly contrived space),—will be the only additional *requisites* for the cabin.

The amount of *soap* for fresh, and of *marine soap* for salt, water must depend upon the passenger's habits. *Wax candles* and *lucifers* may be laid in freely; as a scarcity of either will lead to fabulous prices being asked for them on board by the steward, and others, who, generally, have a stock ready for such emergencies. With regard to private stores, beyond a few dozen of soda water (for sea-sickness),—a few bottles of *essence of coffee* (with some patent inspissated milk, that made at the Harrow farm is the best), for use in the early morning, or after dinner,—some of *Sainsbury's* fruit juices, with a glass *Gazogene*, and a few packets of *Gazogene* powders,—and some tobacco, wherewith to remunerate the sailors for doing little odd offices in the cabin,—nothing, with a liberal captain, is required.

A *lamp*, for heating water, and a *filterer*, always render a passenger comparatively independent. The system of keeping lamps burning at night, however, cannot be too strongly deprecated. Ships are set on fire quite readily enough, without multiplying the risks.

A large supply of screw hooks, nails, cleets, and line,—together with a hammer, and a staple or two, will be absolutely necessary.

The passenger should always go to the ship with a carpenter, a day or two before she drops down the river, and see everything fixed and cleeted into its place, *himself*; and, on no account, leave it till he gets to sea, depending upon the *ship's* carpenter. That official is always too fully occupied with his public duties to be able to attend, at once, to private wants,—to say nothing of occasional incapacity, induced by too frequent libations at the altar of the rosy god!

THE WARDROBE.—The necessity for having this so well filled constitutes one of the disadvantages of the long voyage to India. No calculation should be made for washing at any intermediate port,—as this is not, always, feasible; and laundresses are indifferent, and expensive.

Nine dozen day shirts, made of long cloth, with Irish linen fronts and wristbands. The number may seem a large one; but ships are, sometimes, detained a long time by calms, leading to heavy indents on the linen.

Twelve dozen collars.

Two dozen night shirts.

Six dozen pairs of socks.

Twelve white jean jackets.—These should be made (with round collars), by an English tailor, as patterns for the Durzees in India. Officers, too, will do well to have a few jackets with a military cut, for the same reason. But, the fewer of either kind the better; as they can be made, quite as well, in India, of a lighter and more suitable material; and much cheaper than the London outfitters will supply them.

Alpaca coats.—One, or two, of these, made to look well on both sides, with *trowsers* (double-seated), and *waistcoats*, of the same material,—with a suit of *Russell cord* for moderately cold latitudes (broad cloths are necessary off the Cape),—and a few English made pairs of American drill white trowsers,—not to omit twelve night drawers, or pae-jamechs (made of long cloth, if of Indian silk so much the better),—*four dozen towels*, *six pairs of bed sheets*, *six dozen pillow cases*, and *flannel waistcoats* (laid in, and expenditure regulated, according to habits), besides *boots, shoes, and slippers*, are the chief of the remaining requirements for a compact wardrobe. Very good boots and shoes are made in India; and it is, therefore, unwise to take more than may be absolutely required for the passage. The Chinamen, too, are capital shoe-makers; but they excel, chiefly, in *ladies' shoes*.

MISCELLANEOUS.

Sea water, as is well known, contains a variety of salts in solution, of which the *chloride of sodium*, or common salt, is the principal. It has been estimated that this ingredient, in all the oceans of the world, if aggregated together, would equal 3,051,342 cubic geographical miles, or five times the entire mass of the Alps! All the marine salts, collected, would double that of the Himalayahs!

Waves mountains high are a poetical delusion. The sea, in motion, resembles a rough country, divided into deep irregular valleys, and lofty hills, without any level ground. But, actual measurement proves that, although a wave may reach as high as 22 feet above its own base, its maximum height, above the general sea level, amounts to only 11 feet. In the experiments made from the deck of the “*Venus*,” the longest wave was estimated at 492 feet. Sir J. C. Ross, in his visit to the southern seas, estimated the *velocity* of the undulations at 89 miles an hour; and, that there existed an interval of 1,910 feet between each wave. The term “mountains high,” after such facts as these, is clearly a popular fallacy. It should rather be “valleys broad.”

The greatest depth of the sea, yet ascertained. Captain James Ross obtained soundings (900 miles west of St. Helena), at 5,000 fathoms, or 30,000 feet; and Captain Denham of H.M.S. “*Herald*,” obtained them, in a passage from Rio de Janeiro to the Cape of Good Hope, at 7,706 fathoms, in 36° 49' S.L., and 37° 6' W.L., on the 30th October, 1852. The line was nearly 9½ hours in reaching the bottom; and the depth, thus attained, a distance of more than 7½ miles from the surface, was greater than the height of the highest peaks!

Density of the sea. The amount of atmospheric pressure, as we all know, is, at the sea's level, 15lbs. to every square inch. That of the sea, at 16 fathoms, amounts to 60lbs.; at 60 fathoms, to 180lbs.; at 100 fathoms, to 285lbs.; at 700 fathoms, to 1,830lbs.; and, at 1,000 fathoms, to a ton! [See Rear Admiral Smyth on the Mediterranean.]

Whales, it is well known, will descend perpendicularly to 4,800 feet, sustaining, at that depth, a pressure of 211,200 tons over their entire surface!

Colour of the sea varies with the locality. Whilst *soundings* are always indicated by a *green* colour, a deep *indigo blue* shows that the depth is a profound one.

Porpoises,—the great devourers of herrings, and other small fishes, on our coasts, and varying from four to eight feet in length,—have long, when seen travelling in shoals, been regarded as sure fore-runners of wind. But, this popular fallacy is as great as that, which declares that the stormy petrel is the harbinger of a tempest.

Dolphins differ from porpoises in having the muzzle prolonged into a beak. They are very agile; and will follow ships in *herds*. Their length varies from six, or eight, to ten feet. Dolphins and porpoises were, formerly, much eaten; but their rank and oily flesh saves them from human consumption, at least with Englishmen, in the present day.

Grampuses, nearly allied to porpoises, but distinguished from them by their high dorsal fin, are powerful, and voracious enemies to the smaller cetacea. Though not generally gregarious, they are sometimes seen in shoals of six or eight. A grampus will accompany a ship, easily, at the rate of eight or ten miles an hour.

Neither porpoises, dolphins, nor grampuses are fish; all are cetaceous.

Saw fishes, a kind of mixed ray and shark, sometimes bring their weapon to bear with great force against whales, other fish, or even ships. A portion of a saw was once found in the perforated copper-bottom of the steamer "Enterprize." It had, evidently, been snapped off; and, fortunately, served as a stopper to the, otherwise, inevitable leak.

Cockroaches. As, with the shades of evening, this Orthopterous army sends forth its battalions of *black bobs* to commit depredations and annoyances between the decks of an Indianman, we may, to some extent, realize the feelings of the Egyptians when visited by their vexatious plague of flies. Indeed, an ingenious bishop, arguing from the meaning of an Hebrew word, signifying evening, has suggested (as quoted in Kirby's *Bridgewater Treatise*), that this particular plague *was* actually a flight of cockroaches. But the Rev. F. W. Hope, more recently, in a paper published in the Entomological Society's transactions, very satisfactorily proves that it consisted of *dog flies*. There are several *species* of cockroaches. That, best known on board-ship, is the *blatta Americana*, the large brown variety, where the female is winged as well as the male. In the *blatta Orientalis*, or veritable black bob, the male, only, has wings. Cockroaches, like all the terrestrial Orthoptera, are wonderfully destructive to man; although, *inter se*, they are not very pugilistic. Their voracity may be estimated by the fact of their eating *corks* as freely as anything else! As nuisances are lightened, however, by comparison with greater ones, so let us be thankful that our plague is *only* the *blatta Americana*, and not the *B. gigantea*, a prickly-legged monster, which stinks, and drums, and, biting largely, drives away all sleep,—a very Goliath amongst the Philistines! Cockroaches undergo a *sepi-metamorphosis* only, of which all the mutations are reduced to the growth and development of the elytra and wings, which are always visible, in a rudimentary state, in the nymph. In moulting, they come out with a *white suit*, which gradually darkens on exposure to air; though I observed this change to be only partially developed in a fresh killed white cockroach. The egg cases of *blattæ* have toothed edges, fitted accurately together, which the young (contained within in cellular septa), when old enough, moisten, and so open, with a glutinous fluid secreted from their own persons. It is supposed that the cockroaches, peculiar to Indianmen, were originally shipped from the warmer parts of America, whence they have been transported to the E. Indies and elsewhere. They were unknown in England 50 years ago. Short of a hedgehog (!) the best antidotes are to bait a deep hand-basin with port wine and water; or with beer; or bread; but the *basin* should be *deep*. Probably, phosphorus-impregnated baits would be the most efficacious of all. The *antennæ* of cockroaches are *tactors* chiefly; acting as ears, and not as noses.

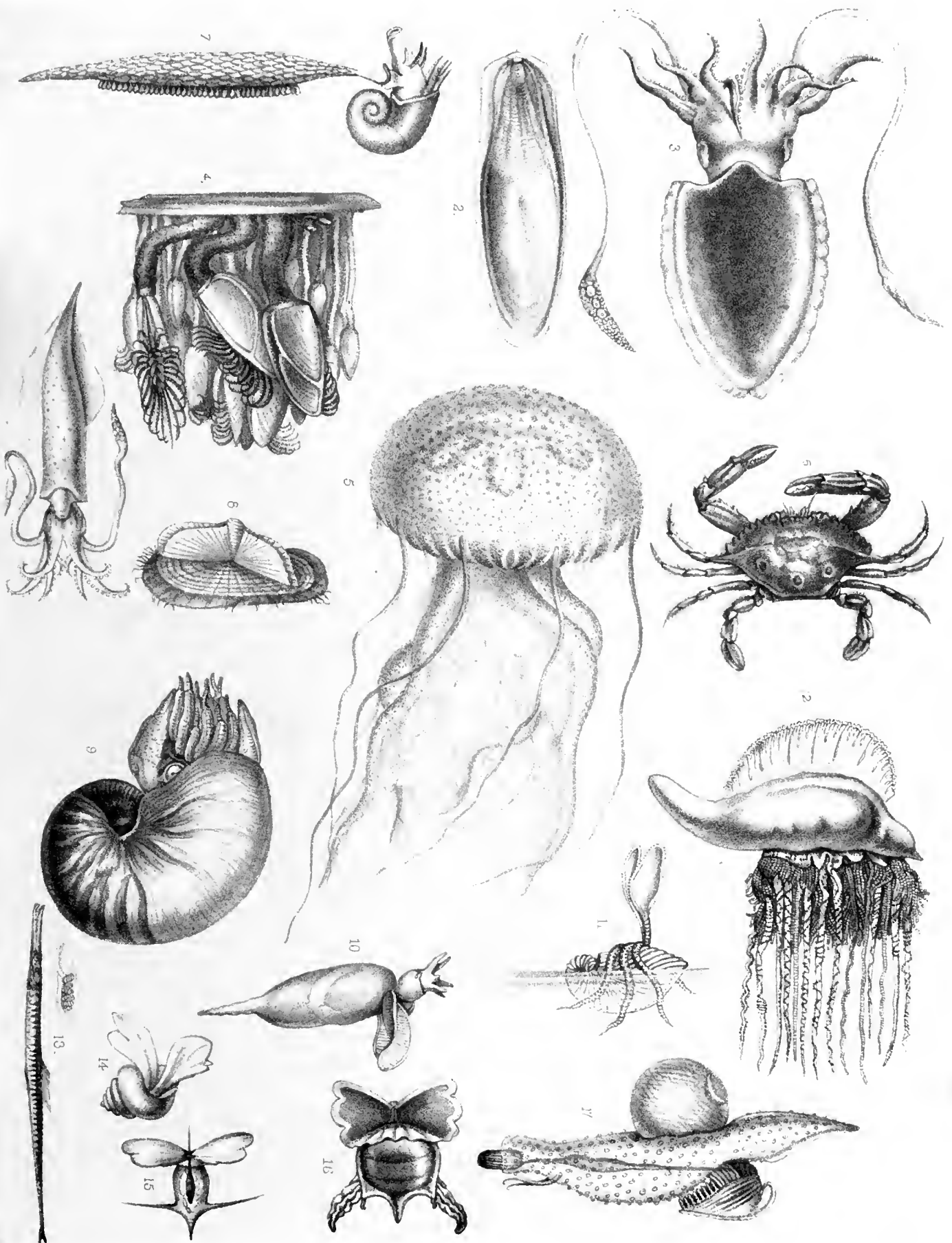
A man overboard. It is a calm Sabbath afternoon. A gentle fair wind plays over the waters; and hearts are happy as the stately vessel glides onward on her homeward course. Suddenly, the startling cry is raised, and echoed through the ship, of "a man overboard." "Hard a port," "down, down with the helm," "cut away the life buoy there," "let fly the head sheets," "square the main yard," "clear away that port quarter boat," and all is bustle and apparent confusion, as the above orders are given and obeyed in rapid succession. The life buoy passes close to the man, but he heeds it not. He swims, but the effort is mechanical. Good heavens! he is *drunk*! Mad with grog, he has *jumped* overboard! Five seconds more, and the waters will close over him. With a loud shriek, he throws his arms up in the air, and ———. But, at that instant, the boat dashes alongside, and the drowning drunkard is saved! The above scene will be familiar to all who were on board the "Alfred," homeward bound, from Calcutta, in 1857. The successful issue was owing, mainly, to the way in which the boat was lowered, reflecting the highest credit on the chief officer (now Captain Smith, of the "Roxburgh Castle"), and on Mr. Weigall, (the 3rd officer), who led the party to the rescue.

HOW TO RESTORE AN APPARENTLY DROWNED MAN.

1. Treat the patient *instantly*, on the spot (at sea, on the deck, or even in the boat,—a doctor should always accompany the rescuing party), in the open air, *exposing* the face and chest to the breeze (except in severe weather).
2. Place the patient gently on the face, with one *wrist* under the forehead. This clears the throat.
3. Turn him well and *instantly*, but *very gently*, on his side (exciting the nostrils with snuff, the throat with a feather, &c., and dashing cold water on the face previously rubbed warm), and then *briskly* back again, *fifteen times in the minute*. In these half-revolutions the chest and abdomen should be well raised and supported, on a folded coat, or other article of dress. When the patient lies on his face make equable, but *efficient*, pressure, with brisk movement, *along* the back of the chest; *removing* it gently immediately before rotation on the side.
4. Rub the limbs *upwards*, with *firm grasping pressure*, and with *energy*, using handkerchiefs, &c. (By this means the blood is propelled along the veins towards the heart.) Let the limbs be thus dried and warmed, and then clothed, the bystanders supplying coats, &c.
5. *Avoid the continuous warm bath and the position on or inclined to the back.*

The above is an epitome of the "ready method," of Dr. Marshall Hall, who, amid the glorious band of philanthropists,—Jenner, Cook, and Howard,—of whom England is justly proud, well deserves a foremost place. It is one of the startling anomalies of an enlightened age, that the Royal Humane Society, of whose committee Marshall Hall was an honoured member, persists, in spite of evidence continually afforded of their comparative inefficacy,—in propagating the same rules for restoring the apparently drowned, which were in operation 80 years ago! The Life Boat Institution, however, whilst its brother remains in a state of "suspended animation," is actively promulgating Marshall Hall's method, and, so, ensuring the recovery of many a life. Who can tell (as the "Lancet" justly observes), if Watt, Jenner, or Newton, had been drowned in early life, when it would have pleased Providence to furnish us again with such leviathans of science as they were? The *humblest* life, however, is valuable in its sphere; and a knowledge of this, the best method of restoring it, cannot be too widely circulated.





18.

Fig. 1. A Violet Snail.
Fig. 2. A Poutice Bone.
Fig. 3. A Cuttle Fish.
Fig. 4. Barnacles.

Fig. 5. Sea Bubble.
Fig. 6. A Gull Crab.
Fig. 7. A Calamary or Squid.
Fig. 8. A Salter Man.
Fig. 9. A Pipe Fish.
Fig. 10. A Carnaria.

Fig. 11. A Nautilus.
Fig. 12. A Portuguese Man of War.
Fig. 13. A Portuguese Man of War.
Fig. 14. A Portuguese Man of War.
Fig. 15. A Portuguese Man of War.
Fig. 16. A Portuguese Man of War.
Fig. 17. A Portuguese Man of War.
Fig. 18. A Portuguese Man of War.

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